The Electragist

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ARTHUR L. ABBOTT, Technical Director
LLOYD M. THOMAS, Associate Editor

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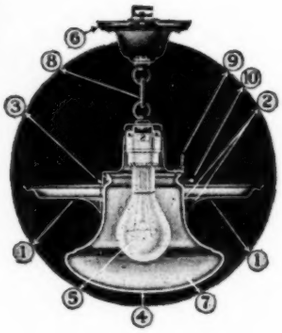

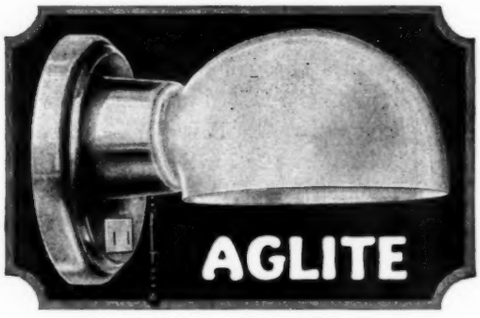

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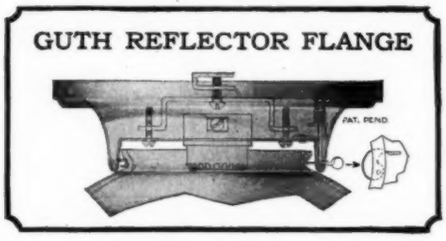

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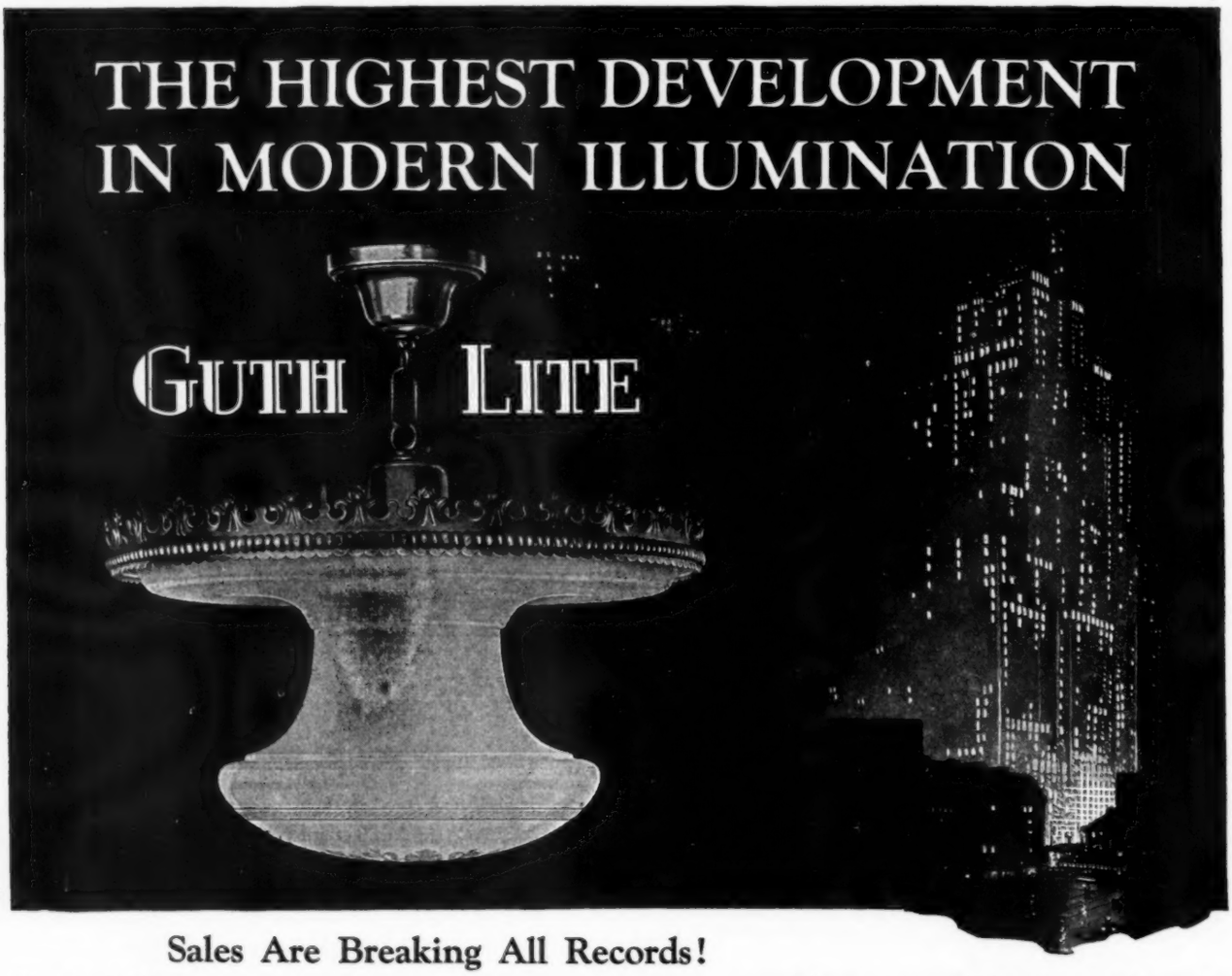
THE HIGHEST DEVELOPMENT IN MODERN ILLUMINATION



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Combines striking beauty with super-efficiency! It is the highest development in modern illumination.

Light diffused and controlled!

Adjustable reflector controls direction of light vertically and horizontally. ' ' ' Scientifically designed globe extends above reflector, providing shadowless ceiling illumination.

GuthLite gives maximum illumination on the working plane, extremely wide light distribution, low brightness at the source.

Dealers claim it is the greatest selling illuminator they've ever seen! Write for attractive terms, also folder illustrating the various styles. Plain and ornamental types. Packed in individual cartons. Complete ready to install. Extremely low prices!

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(3) Ceiling light increased or diminished by raising or lowering reflector.
(4) Low brightness at the source. No spots of high intensity. No glare.
(5) Lamp filament positioned so that most of the light rays are diffused through neck of globe toward reflector, which directs them to the working plane over a wide area.
(6) Adaptable for installation to any type of electric outlet or ceiling construction.
(7) Glass globe scientifically designed to produce efficient total output and low brightness at the visible part of the globe.
(8) Easily and quickly installed. Open-link hanger, so that additional chain can be added if desired.
(9) Self-adjusting spring globe holder permits expansion of glass, preventing rattling or breakage.
(10) Globe quickly applied or released for cleaning or re-lamping. Cleaned in a minute.

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75 to 150	Med.	12½"	8⅜" x 4"	B2820	$ 5.90	B2823	$ 6.45	B2826	$ 8.10	B2829	$ 7.55
200	Med.	17"	11⅜" x 5"	B2821	8.35	B2824	8.90	B2827	11.10	B2830	10.55
300 to 500	Mog.	21"	14⅛" x 6"	B2822	11.65	B2825	12.80	B2828	15.60	B2831	14.45

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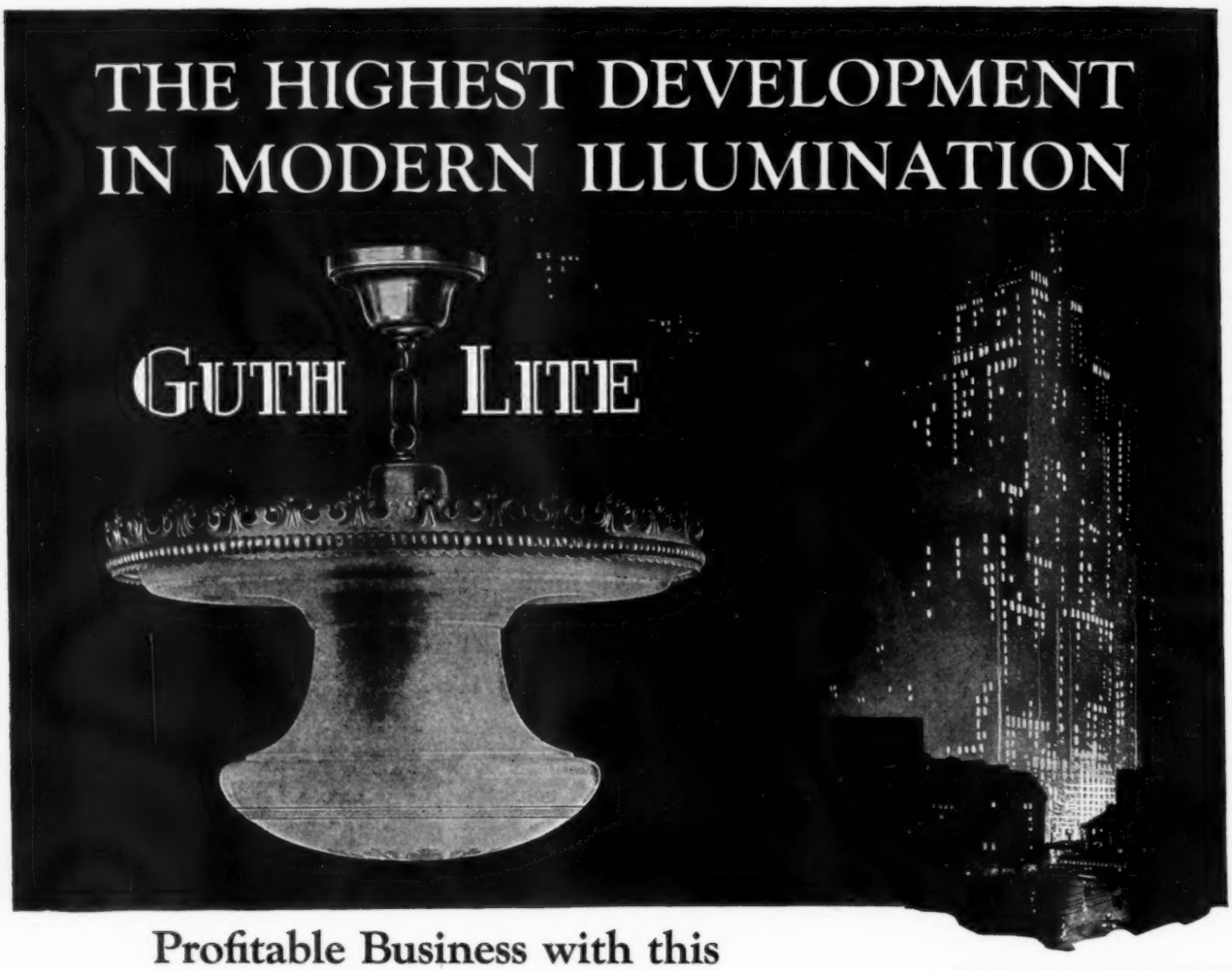

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GuthLite is a business-getter. Its wonderful features appeal instantly to those who want the newest and best in commercial illumination. Here is a totally enclosed illuminator of remarkable efficiency and beautiful design!

Raising or lowering the adjustable reflector controls the light vertically and horizontally! GuthLite provides maximum illumination of the working plane. Wide light distribution. Light that is diffused and controlled! Low brightness at the source. Shadowless ceiling illumination.

Plain and ornamental types. Packed complete in individual cartons, ready to install. Priced exceptionally low.

Write for the attractive terms and literature illustrating and describing the various styles.

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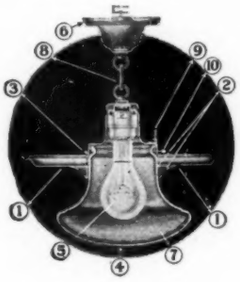

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WHY NOT get back to the common sense method of paying salaries and wages? Just as soon as employers return to the practice of paying by check, it will no longer be necessary to carry large sums of currency through our streets. Then the payroll thief will go out of business.—Joab H. Banton, District Attorney, New York City.

Payroll Bandits Forcing Payment By Check

How Different Electrical Contractors Look at the Possibility of a Change in the Method of Paying Their Employees

WITHIN the past two weeks Joab H. Banton, the district attorney of New York City, has thought it expedient to urge the payment of employees by check as a defense against the epidemic of banditry that has spread throughout that city. Mr. Banton, as a prosecuting officer, recognizes and freely admits that an emergency exists. There is something ominous, he thinks, in the fact that a city which offers as elaborate a system of protection, from a police standpoint, as New York has been victimized to the extent of 1,055 cases of holdup, and the assaults incidental to them, during the past nine months. Since the outlaw activity is actually country-wide, the advice which he has sent out to employers in New York may possibly give those in other parts of the country something to think about.

Elaborating on his suggestion for check payment, Mr. Banton points out that before the war that method for salary distribution was a comparatively common practice in our cities. War conditions, however, created a demand for ready money with the result that salary checks were replaced by currency payments. The return to the salary check has been slow, too slow, Mr. Banton thinks, to benefit anyone but the hold-up man who finds the payroll a favorite and profitable object for his activity. In spite of the cooperation offered by banks at this time employers have hesitated to return to what the district attorney calls "the common sense system of payment of wages."

With the idea of sounding out the sentiment among electrical contractors on the practicability of the salary check, a representative of THE ELECTRAGIST has made a brief investigation of payday methods. The result has shown that a wide difference of opinion exists, varying from marked enthusiasm for the check idea to downright opposition. In the latter case, however, it is only fair to record that there are those whose objections seem to be based on occurrences in the days when the bar was frequently an easy and disorganizing place for cashing the pay check.

The saloon is gone and it is a mistake to overlook the fact that labor faces a new era. Today the mechanic has an income undreamed of fifteen years ago. He owns his home, has an account at the bank, and rides to the job in his automobile. This change in labor conditions was stressed by a prominent eastern contractor who instituted check payment in his organization six months ago and has found the change both economical to himself and agreeable to his employees.

Probably the chief objection to the check was based on a belief that it would be difficult to overcome the antagonism of one type of employee who instinctively associates the end of the working week with a cash settlement for his labor and feels himself entitled not only to prompt payment, but payment which requires no negotiation before it is turned into the necessities of life.

This opposition was answered, in turn, by a contractor who insisted that the introduction of Cashier's Checks, or some of the other various plans offered by banks, facilitate turning pay checks

into cash to such an extent that such dissatisfaction would be neglible.

The possibility of union opposition came in for consideration, although the writer could discover no definite antagonism anticipated from local organizations. On the other hand, it was pointed out that in such cities as Chicago, Omaha, and large centers on the Pacific coast, the pay check is in universal favor with the full sanction of the unions. It was the general feeling, moreover, that unions in general would impose no arbitrary handicaps, especially at a time when precautionary methods were justified in the handling of large payrolls.

There were, of course, those of the contractors who maintained that the clerical and countersigning routine incidental to the check system promised too little in the economy of time to justify any such radical change. A detail of this contention was the claim that many checks would probably not be cashed promptly, to the confusion of monthly statements and other bookkeeping requirements.

As if in answer to these two objections came the discovery that several banking institutions were already offering a Cashier Check service to depositors, thus assuming almost the entire clerical expense themselves. The banks in question have been known to issue hundreds of individual Cashier's Checks in exchange for an employer's draft covering the sum of his entire payroll. This practice, naturally, disposed of the tardy check return also, the banks automatically taking over that responsibility.

A number of other minor handicaps and virtues were introduced into the subject by various contractors. For example, the notion that checks would be tampered with was once suggested only to be rejected by an almost unanimous opinion. The thought that lost checks would prove a complication was also considered unlikely.

In a majority of cases even those who are at present disinclined to give the check a trial were at the same time, ready to admit that "sooner or later we shall all be doing it." It was put down as a logical bit of business routine to be encouraged just as soon as the employees "are educated up to it." One thing, too, was significant—the fact that not a single contractor who now pays by check expressed any inclination to get back to a cash basis.

W. J. Wheeler, president of The Maintenance Company, New York, who anticipated Mr. Banton's recommendation by almost a year, turned out to be one of the new advocates of the check. Mr. Wheeler gave the matter a good deal of thought before he determined on the change because his payroll was large and required distribution over a wide local territory. Certain details he included in the check plan: first, that payday should not fall on Saturday when the banks closed at noon; second, a system of having an identifying signature of the employee on his check. Finally, Mr. Wheeler arranged his banking so that pay checks were drawn only on a bank which maintains branches in practically all parts of New York. The change was then made and has simplified matters greatly for The Maintenance Company. Mr. Wheeler pointed out that, quite aside from the safety element, it has been a relief to get away from the tedious job of drawing the exact pieces of currency and making it up into a large payroll, always an expensive operation in point of clerical time involved.

A LOSS by payroll robbers is always an unnecessary loss. An entirely new type of bandit has appeared in the criminal field during the last few years, and it will always be exceedingly difficult to protect paymasters, particularly in the field, against him. Therefore, those of us who are charged with the protection of the public, as well as the business man, have repeatedly urged employers to use the pay-by-check method wherever possible. It is the duty of every citizen to reduce the temptation to which the evil-minded and the weak-minded are subject. This is especially true of employers who send paymasters out with thousands of dollars in currency. The police and prosecuting officers of our cities have enough trouble dealing with the results of unavoidable temptations, without having citizens complicate matters by deliberately inviting the attention of crooks.—Richard E. Enright, Police Commissioner, New York City.

An interesting check situation turned up when the writer approached L. K. Comstock, chairman of the Union Labor Section of the Association of Electragists, International, on the subject. The L. K. Comstock Co. maintains branches in Chicago and St. Louis, in addition to the New York office, and it transpired that in the west everyone was paid by check, whereas New York employees required cash. Mr. Comstock stated that checks had been used in the west for twelve years, the movement having been advocated and encouraged all along the line by local unions in Chicago and St. Louis. On the other hand, in New York he found unions, even today, objecting to anything but "cash on pay day." Mr. Comstock seemed sure that the check system would eventually be in universal use, but he felt also that such a result in certain parts of the country, notably in New York and New England, would only arrive after concerted action in favor of it by employers in every line.

That it is not too early to expect an entire city to be on the check side of the question was shown by Israel Lovett, head of the Electrical Department of Omaha. Mr. Lovett, who was, of course, able to take a disinterested and unbiased view of the question, stated that salary checks are used entirely in the Nebraska city and were in evidence long before the war.

A summary of the check idea indicates that by far more contractors favor it in theory than are willing to put it into practice. There is a growing feeling that eventually the electrical contracting industry will come to it and, meanwhile, contractors wait for some of the so-called "big men" to start things and set a new style of payment.

Mr. Banton was interested in this summary of the situation among electrical contractors and the rather indifferent way in which New York seems to regard his warning, as far as putting it into practice is concerned, brought this laconic observation from the district attorney.

"Well, I have seen men change their minds in a hurry on a great many subjects, but the pay check idea almost ute after the payroll has been stolen holds the record. In less than a minor an employee shot up the employer may be counted on to warm up to the subject. After all, though most people insist on paying a top price for a little knowledge."

Electragists' Opinions on Municipal Licensing Ordinances

Questionnaire Brings Interesting Results as Members of Association From All Parts of Country Take Up Licensing Laws and Possible Effect of Such Laws in Their Parts of the Country

IN CONTINUATION of the studies of this subject, begun some time ago by the Association of Electragists, International, a questionnaire was mailed to members of the Association for the purpose of ascertaining their ideas on the more important features of licensing laws. A total of 284 replies were received from 42 states and four Canadian provinces. It is believed that the summary of these replies presented here represents very fairly the composite opinion of those contractors who are sufficiently progressive to take an active interest in matters of this nature. The questions submitted were as follows:

1—Should electrical contractors be licensed by Municipalities?

2—Should an annual fee be charged for a contractor's license?

3—Should a bond be required for a contractor's license?

4—Should an examination be required before granting a license to a contractor?

5—Should journeymen electrical workers be licensed by municipalities?

6—Should an annual fee be charged for a journeyman's license?

7—Should a bond be required for a a journeyman's license?

8—Should an examination be required before granting a license to a journeyman?

9—Should retail electrical dealers be licensed by a municipality?

10—Should an annual fee be charged for a retail dealer's license?

11—Should a bond be required for a retail dealer's license?

12—Should an examination be required before granting a license to a retail dealer?

13—Should labor be represented on a board which examines contractors only?

14—Should members of an examining board be paid for their services?

15—If a licensing ordinance is now in effect in your city has it proved to be of considerable value to electrical contractors?

The first and last questions are by far the most important and the replies to these should be considered together. Readers will note that 93 per cent of all replies are in favor of licensing by cities. Of the 19 who answer in the negative to this question 6 are in favor of licensing, but feel that it can be handled by the state or province better than by the city. Of the remaining 13 (less than 5 per cent of the total) who are flatly opposed to licensing in any form most of them give no reason.

The last question, in regard to experience with city licensing ordinances, could only be answered by firms in cities where licensing exists, consequently only 151 replies were received. Of these 76 per cent report a favorable experience. In nearly all cases those members answering this question in the negative are in favor of licensing in general, but report unsatisfactory results for one of two reasons,—either the requirements of the law are too low, or the law is not well enforced.

As to questions 2, 3 and 4,—of those answering these questions, 97 per cent are in favor of requiring the contractor to pay an annual fee for a license, 90 per cent believe he should furnish a bond, and 95 per cent are in favor of requiring him to pass an examination.

Question 5: Shall journeymen be licensed? The vote is practically evenly divided. Questions 6, 7 and 8, as to whether journeymen are to be licensed, —it is the general feeling that they should pay a small annual fee, that they should not be required to furnish a bond and, it is almost unanimously voted, that an examination should be required.

SUMMARY OF REPLIES

Question	Answers			Percentage		Fee or Bond			
	Total	Yes	No	Yes	No	Ans. Stating Amt.	Amount—Dollars Max.	Min.	Aver.
1	284	265	19	93	7				
2	264	257	7	97	3	171	500	1	72.50
3	248	223	25	90	10				
Surety only						137	10000	300	2320
Cash only						11	1000	100	610
Both: Surety						16			3180
Cash									540
4	260	248	12	95	5				
5	273	129	144	47	53				
6	127	104	23	82	18	77	100	1	8.60
7	118	43	75	36	64				
Surety only						29	1000	100	510
Cash only						2	100	100	100
Both: Surety						7			410
Cash									50
8	124	122	2	99	1				
9	266	138	128	52	48				
10	127	118	9	93	7	67	251	1	53
11	120	76	44	63	37				
Surety only						39	5000	100	1350
Cash only						6	1000	100	265
Both: Surety						8			920
Cash									175
12	129	87	42	68	32				
13	251	62	189	25	75				
14	252	192	60	76	24				
15	151	114	37	76	24				

With regard to questions 9 to 12, so far as we have been able to determine, there are only two cities in the United States,—Waterloo, Iowa and Portland, Oregon,—which require a retail electrical dealer to take out a license. The replies to these questions should probably be taken as an indication of what Electragists would like to do, rather than what they would expect to accomplish in most cases. Questions 13 and 14. These are details of minor importance.

The conclusion seems to be justified that the contractors of the United States and Canada are very strong in favor of licensing, and that licensing laws have been very successful where they have been tried, except in those cities where the ordinance itself may be weak in certain respects or where enforcement has been lax. A high enough fee or bond, or both, to act as a real deterrent to the man who has no serious intention of making electrical contracting his permanent business; an examination, which will actually determine a man's fitness to engage in the business; and cooperative efforts by licensed contractors to secure rigid enforcement of the law,—upon all these three conditions will depend the success of the law in any city. A member from Atlanta gives utterance to this bit of concentrated wisdom: "The ordinance would work better if the licensed contractors took more interest in the matter." Eternal vigilance, before, during, and after the adoption of the ordinance, is the price of success.

Important New Metal Useful in Radio

As a result of a search by chemists over a period of more than a hundred years all over the world, a new metal of immediate value and vast possibilities has been added to the world's technical resources in the form of pure metallic ductile thorium which has been prepared for the first time by the Research Laboratories of the Westinghouse Lamp Company, according to a statement by Dr. H. C. Rentschler, head of the Research Department, and Dr. J. W. Marden.

Thorium is of particular interest to the radio enthusiasts because it is the active constituent of practically all radio tube filaments. The present method of making radio tube filaments consists of compounding thorium oxide in the tungsten wire, as thorium has the ability to throw off electrons with great ease and at a very low temperature.

"We Eliminated Dealers Profits"

An interesting trade policy of a manufacturer doing national advertising whereby dealers' profits are eliminated in certain cases is announced in the letter here reproduced. It is difficult to know what the reason is for such a policy. There is little reason to believe that it is done to build customer good will because it is being pushed too hard and is therefore more like straight selling than a good will concession.

It can't be that this is the company's regular method of distribution because if it were the letter would be misleading. On the other hand, it does seem difficult to understand how the cleaners can be offered at less than the dealer's price when individual orders are accepted time payments allowed, and free trial granted.

Governor J. H. Trumbull in Plane Mishap

It was pretty well established on October 9 that the air plays no favorites either with Governors or enthusiastic Electragists. On that day Governor John H. Trumbull of Connecticut was making a plane trip from Hartford to the Danbury Fair, in company with Major T. C. Freeman, who was acting as pilot. Near Bridgeport the plane suffered a broken propeller and a forced landing was made on the outskirts of the city. Although shaken up somewhat, Governor Trumbull was able to continue on by automobile and later in the day made an address at the fair.

The Governor has long been known for his keen interest in airplanes. He has frequently made his official trips around Connecticut in a plane and maintains a landing field in Hartford.

B. F. STURTEVANT COMPANY
(INCORPORATED)

MAIN OFFICE & WORKS:
HYDE PARK, MASS.

Sturtevant

VACUUM CLEANER
DEPARTMENT

October 23, 1925

Haskell Electric Co.,
Holyoke, Mass.

Gentlemen:

It is with pleasure that we again address you on the subject of THE STURTEVANT model 15 vacuum cleaner, the same cleaner that is playing such an important part in the industry because of our national advertising.

During the past year we instituted and put into operation our novel sales plan, whereby employees of our various customers purchased the STURTEVANT at a remarkable saving. We eliminated dealers profits and offered this machine through you to your employees at $35.00 net f.o.b. Hyde Park, Boston, Mass., complete with all attachments. Again we make this offer and call your attention to a modified plan.

Our present sales plan provides:

1. You may order for your various employees.
2. Employees may order direct.
3. Cash or time payment.
4. Three shipping points.
5. Ten day free trial.

There is a reason for the past success of our previous plan. It is the cleaner itself. We made available to your employees a remarkably fine household appliance at a bargain counter price. They responded. We like to feel that your faith in us and in our product was no small factor in the total result. We know that during this fall season, of large vacuum cleaner business, our new plan will be more successful than the old. The new plan is much more liberal.

We call your particular attention to the following pages of this letter which well illustrates the remarkable value which we are offering to you. We do hope that you will bring this to the attention of all people in your employ.

Very truly yours,

B. F. STURTEVANT COMPANY

E. L. Smith

GLS:EB

Sales Mgr. Vacuum Cleaner Dept.

Sales and Credit Leaks

A contractor or dealer might have escaped suffering losses through leaks in Buying and in Stocking pointed out last month only to find that his profits were trickling away in his sales and collection methods

By the Peddler

3. *Leaks in Selling*

Time Payment Sales With Too Little Capital

THE Peddler does not boast that he could run a contractor-dealer business. Many a critic would fall short of his ideals if he tried to operate in the field of his own criticism. But he has the advantage of a detached point of view, devoid of the worries and loss of perspective so often resulting from intimate contact with details. The Peddler is privileged, moreover, to observe many individual enterprises in operation, and, by comparing their successes and failures, is often able to pass along helpful suggestions.

A common cause of grief in the trade these days is the financial embarrassment resulting from partial payment housewiring campaigns. A number of dealers known to the Peddler have found out too late that, even though they discount their contracts through a financing company, more capital is required for this kind of operation. Why?

First of all, because the privilege of buying on the installment plan increases demand. Jobs are easier to get, and an increase of sales results. More sales requires additional capital. The use of outside sales organizations further increases the hazard of too much business.

Secondly, some financing companies will not discount contracts until the consumer signs a statement asserting that the service is connected. Meanwhile, bills for material used on the job may fall due. This is sure to happen where a line extension is involved.

Thirdly, because of some fallacy in the execution of the contract the finance company may refuse to discount it. The contractor, having entered into the contract with the consumer, is then obliged to carry the account himself. It is well to follow the finance company's rules to the letter.

Failure To Advertise in Dull Seasons

PUBLICITY is a powerful weapon, if properly wielded. The Peddler knows of one dealer who moved into a town where there were already three well-established competitors, and, by advertising assiduously in dull as well as busy seasons he soon had a solid hold on local business, somewhat at the expense of the others. The Peddler asked him how he did it.

"My advertising wouldn't be worth two cents if I didn't back it up solidly here in the store," said he.

"In what way?"

"Well, for example, there's a dealer in this town—I won't mention names—who uses his window as storage space for things he hasn't got room for anywhere else. At least that's the way it looks to me. I figure he loses every month the difference between what he pays for rent and what he would pay for an equal amount of floor space in a back alley somewhere. He throws all his window rent and part of his store rent away each month, because he doesn't make full use of them for the purposes intended. He was one of the first contractors starting in business in this town, and yet today I do more business than he does."

"That's interesting," commented the Peddler, "you must have some definite plans to follow in dressing your own windows."

"Well, I never wrote them down, but I could give you an idea what they are.

"For one thing, I never let a window express more than one idea at a time. Why, once I attracted a lot of attention with a fuse plug display. I had a sign in the back of the window—"Electrical Protection"—warned against the use of pennies in the cutouts; advised them to keep a supply of plugs on hand. As a result, I had them coming in and buying plugs in cartons of four.

"In the second place, I change the window weekly, sometimes oftener than that, especially around the holidays. It's a lot of work, but it pays.

"Third, I display goods in season and tie it up as much as possible with the national advertising of the manufacturers.

"Finally, I back up my window displays with a well-arranged, live-looking store."

Entering Upon More Than One High-Pressure Sales Campaign at a Time

"WHILE your ear is cocked for fatherly advice," he went on, "I'll tell you a sad story. I was once inveigled into two of those high-pressure sales campaigns on appliances at the same time. I started one on vacuum cleaners and a few days later listened to a wonderful tale of profits to be made selling washing machines. As soon as I stocked myself on both these items, the fun began. Of course, I was unable to supervise both campaigns effectively. The demonstrators and door-to-door salesmen stepped on each others toes and the situation ended with both manufacturers leaving me in disgust with a lot of merchandise on my hands that I couldn't hope to move alone. The jobber through whom I bought the washing machines took all but one back because I couldn't meet his bill. I finally raised enough cash to pay for the cleaners in time to avert a law-suit by selling most of the machines at a loss to get the money. That was a tough lesson. You can bet I don't bite off more than I can chew any more. These days I am even careful to see to it that I can digest commercially even a nibble."

4. *Leaks in Credits*

Lack of Routine For Collecting

"I UNDERSTAND money's a bit tight with you, Frank. What can I do to help you?"

The Peddler had another of those infernal notes from the credit department in his pocket. Frank was an electrical merchant contractor in a small town.

"Can't pay money till I get it," he complained. "People don't pay their bills any more nowadays, and if you press 'em, they get nasty and take their business somewhere else."

"It might better go somewhere else, if they don't pay," the Peddler was thinking but he realized that the problem was not one to be lightly dismissed with a few platitudes.

"How do you make your collections," he asked.

"I send out bills and, when I need money, I go out and try to collect some. If they can't pay, they can't, that's all."

"I'm here to help you, Frank, because our success is bound up in yours and that of our other contractor accounts. I've never been a collector myself, but I know collecting is a tough game. Why not install a regular collection system, a set of collection letters and a tickler file?"

Frank did not take to this idea.

"Sending out letters is a lot of bunk, and it won't work. I've tried it."

"Perhaps it is, Frank. But others have tried it too and with much success. No doubt the wording of the letters has a lot to do with it. Let's draw up some anyway, and try it."

"But before we get started, I want to ask you one question. You have paid us some on account. Do you owe other houses?"

Frank frankly displayed three bills owing other houses and on which nothing had been paid.

"Frank, you have known me for a long time and we can talk plain to each other without fear of misunderstanding. Tell me why it is that you have paid some money on our account and nothing on these three."

"Well, I'll tell you, Old Scrooge down at your place always squeezes me harder than the other credit men."

This was just the answer the Peddler looked for.

"That's a good example, right there. The man that goes after the money has a better chance of getting it. A customer may have less than you at stake in not meeting his bills, but he's just as human as you are. He'll certainly be more apt to pay the creditor that rides him the hardest—in a diplomatic way, of course.

"Now another question. Why do you keep on trading with us in spite of 'Old Scrooge'?"

"I get tolerable good service from the rest of your crowd, and I like you personally," conceded Frank.

The Peddler acknowledged the compliment.

"But," he continued, "if you keep on preaching to me like this, I may change my mind."

There was a reassuring twinkle in his eye, however, and the Peddler went on.

"The average consumer is enough like you to appreciate and be willing to pay for clean-cut, prompt service, the kind that's crisp and smart, as the ads say. That's a long-distance method of attacking the collections problem, but it is known and practiced by department stores. The reason is that snappy service and efficient business methods leave no room for complaint or dispute, and, at the same time, *command respect.* When John Wanamaker goes after the money, the customer knows instinctively that he means business, and he gets results. Not hundred percent results by any means, but better results than if he hadn't done his part with speed and accuracy."

Selling On Extended Terms Without Written Contract

AN examination of Frank's books disclosed a customer who was paying for a washing machine on the installment plan. She had agreed to pay four dollars a week, but had fallen several weeks behind. Frank excused this on the ground that he knew the woman personally, that she was all right, and would pay all up in time.

"I'm going to slip you another piece of advice, Frank," said the Peddler, "then you can kick me out. Don't sell even your own brother on the installment plan without notes, or contracts, or some written document. People have a way of forgetting details, and then if you have no written proof you either lose the money or you lose a friend or maybe both."

Laxity in Extending Credit

THE Peddler believes that there is too much laxity among contractor-dealers doing business in residential districts in the matter of investigating the credit of a prospective customer before installing wiring in his premises or shipping him goods on credit. From his observation of local tradesmen, he believes that much valuable information may be gathered by gossiping with the butcher and the plumber and other non-competitors. At least such procedure should reveal the names of persons who are in absolute disrepute—"blacklisted."

Failure to Take Cash Discounts

A FELLOW "knight of the grip" recently told the Peddler of a salesman who discounted bills for his customers who did not find it convenient to take advantage of the privilege themselves. He took notes dated thirty to sixty days for the net amount of the bills, but, of course, was careful of his man in each case, for failure to collect a note of some size would be apt to make his overhead unprofitably high. Whether or not the salesman found this a lucrative method of investing his spare change, there is no doubt that discounting bills is a profitable habit for the contractor-dealer. Roughly, the amount thus saved is 24 percent per annum on the average monthly purchases. The profit and loss statements of many department stores show that if cash discounts were not taken advantage of in purchasing merchandise, there would be no net profit for the year. Failure to take cash discounts has the additional drawback that it hurts the contractor's credit rating with the jobber.

If additional capital is needed, it would be far more advantageous to borrow from the bank at 6 percent. It is good economy to borrow money for the payment of current bills when working capital is tied up as the result of sound business expansion but not when it is tied up by overstock, lax collections, business carried on at a loss, or any other unhealthy condition. Moreover, the banks will not make such loans if statements reveal unfavorable conditions of this sort. Banks have a way of wishing to know just what their money is doing.

Failure to Seek Advice of Jobber's Credit Manager

IT was a gloomy day for the new credit man. He was a good credit man, but had recently taken up his duties with a new house, and the inevitable first failure had just occurred.

"Why didn't you tell me earlier that you were in trouble?" he asked the unfortunate.

"I thought I'd pull through some way, but the B & B Electric Supply Company forced the issue."

The new credit man went back to his house to get out a circular letter under the heading, "We Don't Scold, We Help," to send to the 25 percent of his accounts which were the least secure.

If every contractor availed himself of the sound advice and counsel of his jobber's credit manager, the jobber would no doubt have to add to his credit force. But the Peddler believes that economy for both sides would result if such a situation came about. Indeed, some jobbers have already added to their sales forces men who are equipped to give such assistance as installing bookkeeping systems and otherwise aiding contractor customers in the details of operation. The average contractor takes as little stock of his solvency as the average man does of his health. A man has to pay the doctor to give him a physical examination, but a contractor may get a business "health examination" free of charge with the help of his banker or the credit manager of his supply house.

Conclusion

TOO much system is uneconomical. But that is an extremely rare disease. The leaks which the Peddler has tried to illustrate in these two articles are the results of too little system, and are the common causes of business mortality. Good management is the cure, and records, of purchases, stock, sales, receipts, and payments, are the prevention. Records furnish the experience upon which future policies may be based, and the data from which periodic "health examinations" may be made.

Herbert Hoover is giving a large amount of time and study to economic wastes in this country. In time much of the waste alluded to above may be eliminated by competition. Those who look to the leaks will be able to operate at a profit, while those who continue a program of "hit-or-miss" will surely be eliminated.

Interior Telephone Work II

Selection of Wire and Cable

By J. B. LONG
Telephone Sales Engineer, Western Electric Company

THERE is nothing less practical than a practical man, Elijah Haskins decided, after he had installed an interior telephone system which suffered from constant noise and cross-talk. The reason, he discovered later, was that he had not used twisted wire. Wasn't he an electrical contractor who had been in the game twenty years? He certainly was. And, like a practical man, he had gone ahead and put in phones exactly as if he had been putting in electric lights. He had wasted a lot of good wire, produced a discreditable job, and run up his expenses almost 50 percent over what they should have been.

Looking over the extent of the disaster later, he was anxious to quit being practical. He headed for the theory of low-tension work as fast as he could. And, having completed a detailed catalogue of inter-phone systems and the work they are designed to do, he went after the theory of installation and its important applications.

"First," said he to himself, "I am going to know in advance just what materials ought to be used. I am not going to make another slip like that of

STANDARD SIZES OF INTERIOR TELEPHONE CABLE

	Conductors No. 18 B&S	No. 22 B&S	Covering	Approximate Outside Diameter, in Inches
1.	4 single		Fireproof braid	1/4
2.	8 single		Fireproof braid Lead Sheath Green cotton braid	5/16
3.	12 single		Fireproof braid Lead Sheath	11/32 or 3/8*
4.	6 single	2 pair	Fireproof braid Lead Sheath	13/32
5.	6 pair	2 pair	Fireproof braid Lead Sheath Green cotton braid	13/32 or 7/16*
6.	12 pair	2 pair	Fireproof braid Lead Sheath Green cotton braid	1/2 or 7/16*
7.	16 pair	2 pair	Fireproof braid Lead Sheath	17/32 or 9/16*
8.	20 pair	2 pair	Fireproof braid Lead Sheath	9/16 or 19/32*
9.	24 pair	2 pair	Fireproof braid Lead Sheath	19/32 or 5/8*
10.	31 pair	2 pair	Fireproof braid Lead Sheath	5/8 or 11/16*

* The largest figure is the diameter of the lead-covered cable.

forgetting that telephone wire is twisted to avoid inductive disturbances. And then, I am going to dope out a list of tools and see how much time and money I can save by having the right tools with me all through the job."

The first cardinal principle which Mr. Haskins discovered was that it usually pays to use cable, instead of trying to pull through individual wires or pairs of wires. He listed a short table of the standard sizes of cable available for telephone work.

The cable is usually available with three different coverings; lead sheath, fireproof braid, or green cotton braid. Wherever there is any danger of dampness, even to a small degree, the lead-covered cable should be used. Cable with a fireproof braid covering is suitable for inside work where there is absolutely no danger of moisture, while the green cotton cover makes a nice-appearing job where the cable is exposed to view.

Mr. Haskins smiled as he recalled how he had once run cable along a floor. He could not imagine how the cable could get wet, so he economized and used fireproofed cable. The next day a zealous washerwoman wielded a wet mop, and the result was a saturated section of cable and a mean session for Mr. Haskins.

The completed list of stock cable for interior telephone work reads like the table on the previous page.

It was somewhat of a job to get clear exactly what size of wire should be used for a particular installation. This was chiefly because the different systems have different requirements, and because in many cases it is good practice to use larger wire rather than additional batteries when there is a great distance between stations. The data was summarized by the contractor about as indicated in the table below. He found that it was a simple matter to ascertain what size of wire ought to be used, and then to pick out the appropriate cable from his list of standard sizes.

WIRE SIZES FOR DIFFERENT SERVICES AND DISTANCES
(All B & S Gauge)

(The distances in feet refer to the length of line between the stations of the system which are farthest apart).

1. Selective Ringing
   Selective Talking
   (full metallic) — 1 pr. No. 22 for each station.
   2 prs. No. 18 for talking and ringing battery.
   (common return) — 1 No. 22 for each station.
   3 No. 18 for talking and ringing battery.

2. Selective Ringing
   Common Talking — 3 common and 1 individual.
   750 ft., No. 22.
   750-1000 ft., No. 20.
   1000-1500 ft., No. 18.
   1500-2500 ft., No. 16.

3. Code Ringing
   Common Talking — 3 common wires.

	2 stat	3 stat.	4 stat.	5 stat.	6 stat.
250 ft.	No. 22	No. 22	No. 22	No. 22	No. 22
500 ft.	No. 22	No. 22	No. 20	No. 20	No. 20
750 ft.	No. 22	No. 20	No. 20	No. 18	No. 18
1000 ft.	No. 20	No. 18	No. 18	No. 18	No. 16
1250 ft.	No. 18	No. 18	No. 16	No. 16	No. 16
1500 ft.	No. 18	No. 16	No. 16	No. 16	..

4. Master and Outlying
   A. Selective Ringing
   Common Talking — 3 common wires; 1 individual for each outlying station. (Use cable between inter-phones only; connect battery to circuit by separate wires).
   750 ft., No. 22.
   750-1000 ft., No. 20.
   1000-1500 ft., No. 18.
   1500-2500 ft., No. 16.

   B. Annunciator
   Common Talking — 2 common wires; 2 individual wires same as 4 A.

   C. Annunciator
   One-way Ringing — 1 common wire; 1 individual wire.
   250 ft., No. 22.
   250-400 ft., No. 20.
   400-600 ft., No. 18.
   600-1000 ft., No. 16.

   D. Annunciator
   Connecting Cords — 1 common wire; 1 individual wire.
   Same as 4 A and 4 B.

5. Apartment House Systems — No. 22.
   For interior wiring to telephones, No. 18 or No. 19 twisted wire.

6. Private Inter-phone Exchange — No. 22.
   For wiring to telephones, No. 19 braided may be used.

[The third section of this article will take up installation methods and will appear in an early issue.—EDITOR.]

An Original Reminder

It goes without saying that it is a wise business man who is able to keep himself and his product constantly before his customers. In these days of keen competition there is, of course, everything to be gained by being reminded when there is something needed in one's particular line.

The time-honored calendar has done long and valiant service as a reminder while the blotters and rulers sent out in such quantities are generally put to good use, most of the time as an aid to the school work of those they were obviously not intended to reach.

Very much more original, and we suspect successful, is a reminder plan being used by The Maintenance Company, Inc., in New York City. Each month this company sends out to all of its customers a small four-page folder which is known as The Minute Man. It is not used as an inclosure with bills, but is dispatched with all the individual dignity its contents deserve.

The real merit of The Minute Man, however, is the fact that it does not poke a reminder advertisement at the reader immediately. On the first pages one finds some good jokes which have really been picked for their humor and not for space filling purposes. Naturally, the advertising end is not forgotten, but it is tucked away at the end of the folder where, we suspect it gets attention and does a good bit of good.

Estimating for Electrical Contractors

Lesson No. 11—Small Exposed Rigid Conduit Installations and Motor Wiring

BY ARTHUR L. ABBOTT
Technical Director, Association of Electragists

THE preceding lessons of this series have dealt chiefly with the wiring of new buildings. Beside the typical conduit jobs in new buildings and the various classes of house wiring there are several other classes of work which, though the individual jobs are usually small, make up in the aggregate a very large volume of business for the electrical contractor. This work includes exposed wiring for light in old buildings with rigid conduit, armored cable, or metal molding; the individual jobs ranging from the installation of one additional outlet to the complete wiring of a large space; wiring for small power jobs; and concealed wiring in commercial and apartment buildings.

Exposed Rigid Conduit Work

While many of the small exposed jobs are done on a time and material basis, the contractor is frequently called on for bids on such work, and it is just as important that these small jobs be estimated accurately as it is in cases of larger work. It is also very necessary that estimates be made rapidly so that the overhead charge for estimating may be kept down.

Labor units for exposed rigid conduit work were included in the table of Standard Times, published in the March issue. For the convenience of the reader this data is reproduced here.

The labor units in Table 1 do not include the time for fastenings or supports for the conduit and boxes, hence they apply to any kind of building construction; but an additional allowance must be made for the labor required on the fastenings. Labor data applying to several of the more common types of fastenings is given in Table 2.

The cinder concrete, referred to in Tables 2 and 3, is much softer than concrete made of crushed stone or gravel. This material is used very extensively for floor construction in New York City.

The times given in Table 2 include the necessary allowances for handling the pipe strap or outlet box and for the unavoidable lost time which is incidental to any kind of manual labor. The time in each case is therefore considerably more than would be observed if only the actual time taken by the mechanic to insert the fastening is taken into account.

Table 1—Standard Times for Exposed Rigid Conduit Work

	Size	Hours per 100 ft.
Branch Circuit Conduit	½"	2.13
	¾"	2.67
	1"	3.80
Outlet Boxes—ceiling or wall		Hours per 100—12.3

Additions for Pipes Entering Boxes

	Size	Hours per 100
Ceiling Outlet	½"	24
	¾"	27
	1"	45
Wall Outlet	½"	25
	¾"	28
	1"	47

In a previous installment it was explained that a job factor must be added to all labor units given for branch circuit conduit work. It will be evident to any one who has read this explanation carefully that the same line of reasoning cannot be applied to the small job in an old building. The job factor is an allowance made to cover the lost time and delays which may reasonably be expected on a new building. On the class of work now under consideration there will always be some time lost in getting to the job and getting the work started, also in picking up tools and material, and getting away from the job. In some cases a loss of time will also be occasioned by obstructions in the building—furniture, machines, etc., and it may be necessary to limit the work to certain hours in order to avoid interference with the occupants of the building. It is advised, therefore, that the labor be figured according to the data in the tables, and that a flat allowance for lost time be added, which will depend upon the actual conditions in any given case. It is obvious that no set rule can be given for computing this allowance.

From the fundamental data in Tables 1 and 2 figures may be tabulated which will save much time and labor in estimating simple jobs.

On this class of work 1 in. conduit is seldom used, so we may neglect this size. About 14 pipe straps are required per 100 ft. of conduit, and we will assume that the standard strap is used, which requires two fastenings per strap. The total labor on pipe installed on any material may then be found by adding to the labor per 100 ft. on the pipe itself, the labor on 28 fastenings.

Thus for ½ in. conduit installed on wood, using nails, the labor on straps per 100 ft. of conduit is .28x1.2=.336 hours. Adding this to 2.13 we have for the total labor on ½ in. conduit 2.47 hours per 100 ft., or for ¾ in. conduit 3.01 hours per 100 ft. If wood screws are used instead of nails the strap labor

Table 2—Standard Times for Fastenings

Type of Fastening	Material	Hours per 100
Nail	Wood	1.2
Wood Screw—1" to 1½"—No. 8	Wood	2.4
Rawlplug—1½"—No. 8 screw	Cinder Concrete	4.9
Rawlplug—1½"—No. 8 screw	Tile	4.9
Rawlplug—1½"—No. 8 screw	Brick	6.7
Lead Shield—No. 10 or No. 12 screw	Brick	13
Lead Shield—No. 10 or No. 12 screw	Hard Concrete	20

is .67 hours per 100 ft. and the total per 100 ft. of conduit is 2.8 hours for ½ inch and 3.34 hrs. for ¾ inch.

The fastening labor may be combined with the outlet box labor in the same way. The box labor given in the table is 12.3 hours per 100 for either ceiling or wall outlets. If the ceiling and walls are wood the boxes will be secured with two wood screws each. The labor on screws for 100 boxes will be 2x2.4 hours=4.8 hours, and if this is added to the box labor the sum is 17.1 hours per 100 boxes.

Another simplification may be made by combining the pipe entrance labor with the box labor. The average number of pipe entrances is two per outlet. There is not a great difference between the labor units for ½ in. and ¾ in. pipe entrances, or between the units for ceiling and wall entrances. We may, therefore, make a safe approximation by assuming that three-fourths are ½ in. and that nine-tenths are entrances to ceiling boxes, which results in the average labor of 25 hours per 100. Two per box gives us 50 hours per 100 to be added to the box labor. The total labor on the box, two wood screws and two pipe entrances, is then 12.3+4.8+50=67.1 hours per 100.

The above detailed explanation of this method of combining the labor units has been given to enable the estimator to make up figures which can be used for exposed wiring on any kind of building construction. Labor units applying to several of the more common types of building construction have been worked out in this manner and are shown in Table 3.

On the smaller class of installations in old buildings it is common practice to install surface type cabinets containing porcelain or slate cutouts instead of panelboards. The labor on these combinations may be figured by using the hours per terminal shown in Table 4, reproduced from the April issue. Owing to the wide variations in practice in making up such outfits, it is hardly possible to compile data which will be accurate under all conditions, but this labor is only a small part of the total labor on the job, and the use of this table will give results sufficiently accurate for all practical purposes.

Externally operated switches are very commonly used in connection with exposed conduit work. Table 5 gives the total labor per switch for mounting on wood, brick, or concrete and making all connections to the switch.

Table 3—Standard Times for Small Jobs of Exposed Work, Including Fastenings

Installed on	Fastenings	Hours: ½ in. Conduit per 100 ft.	Hours: ¾ in. Conduit per 100 ft.	Hours: Outlet Boxes per 100
Wood	Nails	2.47	3.00	
Wood	Wood Screws	2.80	3.34	72
Cinder Concrete	Rawlplugs	3.50	4.04	77
Brick	Rawlplugs	4.00	4.55	81
Hard Concrete	Lead shields & screws	7.73	8.27	107

Motor Wiring

In estimating the wiring for motor installations the quantities of conduit and wire should always be obtained by either scaling from a layout or taking actual measurements in the building. This applies to the wiring for one motor or any greater number. The labor on these items can be figured from the data previously given.

Table 4—Panelboards and Cabinets Labor per Terminal

Size Terminal Amp.	Hours per Terminal
30	.27
60	.55
100	.78
200	1.13
400	1.63
600	2.62

Table 5—Labor to Mount and Connect 250 Volt Fused Externally Operated Switches

Amp.	Poles	Time in Hours Mounted on: Wood	Brick	Concrete
30	2	.6	.8	1.4
No	3	.7	1.0	1.5
Lugs	4	.8	1.1	1.7
30	2	1.1	1.4	2.0
With	3	1.5	1.8	2.4
Lugs	4	1.9	2.2	2.8
60	2	1.45	1.8	2.3
	3	2.0	2.3	2.9
	4	3.0	3.3	3.8
100	2	2.6	3.0	3.5
	3	3.6	3.9	4.4
	4	4.7	5.0	5.7
200	2	3.7	4.0	4.7
	3	5.1	5.5	6.1
	4	6.8	7.3	8.0
400	2	5.0	5.5	6.2
	3	7.0	7.4	8.1
	4	9.1	9.8	10.4
600	2	7.6	8.0	8.8
	3	11.0	11.7	12.3

Table 6—Small Power Work

Total Labor on conduit run exposed on wood and secured with pipe straps and wood screws.

Average Length of Run—Feet	Labor—Hours per 100 feet: ½"	¾"	1"	1¼"
12	7.3	8.1	20.4	31.5
15	6.3	7.1	17.3	27.0
20	5.4	6.1	14.6	22.4
25	4.8	5.6	13.0	19.7
30	4.4	5.2	11.8	17.9
35	4.2	4.9	11.1	16.3
40	4.0	4.7	10.5	15.3
45	3.8	4.6	10.0	14.6
50	3.7	4.5	9.6	14.2

A study which was made recently of a small power installation in an old building brought out the facts that labor on pipe terminals, elbows, bends and pipe straps amounts to a large part of the total pipe labor; also that a disproportionately large amount of time would be required in estimating to list and figure the labor on all these items. This was a typical job of its class. The floors were of mill construction with brick walls and all work was exposed. The space was 40 ft. by 50 ft. and was occupied by a woodworking plant. There were 14 motors, 220 volt 2-phase, ranging from 1 H. P. to 10 H. P. The system of wiring was 3-wire.

It was found that reasonably accurate results could be secured in estimating such a job by using an average figure for the total labor per foot of pipe of each size, depending upon the average length of run. For each size of pipe the total length is to be divided by the number of runs of that size. The labor per 100 ft. corresponding to this average length of run is then found in Table 6. The figures in the table include the labor on the pipe itself and on the pipe terminals, elbows, bends and pipe straps.

Labor on wire per 1,000 ft. will be somewhat less on a job of this type than on a large job. A supply of the smaller sizes will be at hand and no appreciable time is lost in securing a coil of a certain size wanted. Many runs are very short and the wire can be pushed through the pipe without fishing. Such large wire as is used will be sent to the job cut to the right length and there will be no moving of reels from place to place. It is recommended, therefore, that the "constant time per run" or preparation time be omitted and that only the hours per 1,000 ft. for fishing and pulling be used, referring to the table of wire labor previously published.

It is preferable to include in one figure the labor for mounting and connect a motor-starter, making connections at the motor and an allowance for testing the direction of rotation and reversing two leads if necessary. Two and three-phase squirrel-cage induction motors up to and including 5 H. P. are almost universally started by some form of "across-the-line" starting switch. If manually operated these starters are merely a special type of externally operated switch. Table 7 is derived from Table 5 by adding the time required for connecting the motor and testing. This data will apply to practically any type of manually operated motor-starting switch.

For motors larger than 5 H. P. Table 8 gives the labor to mount and connect two-phase and three-phase compensators, including the motor connections and testing for direction of rotation.

Table 7—30 Amp. A. C. Motor-Starting Switches
Labor to mount and connect switch and make connections at motor. It is assumed that lugs are used for the connections at the motor in all cases.

	Time in Hours—Mounted on		
	Wood	Brick	Concrete
3-Pole, no lugs at switch	1.5	1.7	2.3
3-Pole, with lugs	2.3	2.6	3.1
4-Pole, no lugs at switch	1.8	2.0	2.6
4-Pole, with lugs	2.9	3.2	3.7

Table 8—Compensators for 60 cycle 220 volt Squirrel Cage Induction Motors
Labor to mount and connect G. E. Type CR 1034—N1 Compensators and make connections at motor

Motor H. P.	Size Comp.	3-Phase Time in Hours Mounted on			2-Phase—4-Wire Time in Hours Mounted on		
		Wood	Brick	Concrete	Wood	Brick	Concrete
7½	1	4.4	5.2	5.8	5.1	6.0	6.6
10	1	6.0	6.9	7.5	5.1	6.0	6.6
15	1	6.6	7.5	8.0	7.3	8.2	8.8
20	1	7.3	8.1	8.8	8.1	9.0	9.6
25	1	7.3	8.1	8.8	8.1	9.0	9.6
30	1	7.6	8.4	9.0	9.0	9.8	10.4
40	2	9.0	9.8	10.6	10.3	11.1	12.0
50	2	9.7	10.5	11.3	11.2	12.0	12.8
75	3	11.6	12.4	13.2	12.7	13.5	14.3
100	3	12.8	13.6	14.4	15.8	16.6	17.4

Wiring of Farm Buildings

Central stations, according to the Rural Electric Service Committee of the N. E. L. A., should assist in planning the wiring of farm buildings that are to come on their lines.

"With the development of rural service," says the committee, "there will be a tendency toward the contracting of wiring jobs, with the result that the work will be placed upon a price basis, and the farmer being entirely unfamiliar with wiring problems, will secure an installation which suits neither his convenience nor his needs.

"Farm house wiring should be comprehensive. It should consider the possible use of electric cooking and electric refrigeration. Convenience outlets should be placed with all care and consideration which is given in the case of an urban customer. The success of the rural electric enterprise will be largely dependent upon the satisfaction which the farmer receives from the service. For this reason every effort should be made to see that switches are installed at proper locations, that fixtures are purchased which give effective and pleasing results, and that the illumination is adequate.

"In the wiring of farm buildings adequate switching equipment should be installed so that illumination may be limited to the points at which it is necessary, thus conserving electricity and promoting convenience. On the other hand, wiring schemes should not be extravagantly laid out but should be designed from the standpoint of utility, economy and convenience. It is suggested that one of the best means of securing the desired results will be to closely supervise and direct the initial installations which will then serve as examples for later installations, since particularly in rural communities the advantages received by one customer will be quickly passed on to the other.

"It is suggested that in the wiring of barns, particularly dairy barns, care be taken to protect the wiring from fumes which may destroy its insulation and create hazardous conditions and unsatisfactory operation."

J. J. Farley, Fullerton

J. J. FARLEY is one of the many people who have decided that California is the place in which to carve out a career and he has held to that belief for fourteen years, building up, in the course of that time, a widely-known and successful electrical contracting and merchandising business. He was born in Portsmouth, Ohio, in 1889, but was raised and educated in Columbus. He worked first as a night telegraph operator, while attending high school in 1907-1908. For the two years following his graduation from school he was district inspector of stock and grain tickers in Columbus. In 1910 Horace Greeley's advice, about going west while you are still young and not waiting until you were too old to enjoy anything but the climate, struck him as worth while listening to and he migrated to Los Angeles. There he ventured into the contractor-dealer business and for five years made a go of it. In 1915, however, he came to the conclusion that a small, growing community held greater opportunity than a large city. The upshot was his move to Fullerton, a city of about 10,000 people, in the center of the Valencia Orange district. Believing in co-operation with the central station, he located his large and well-appointed store next door to the Southern California Edison Company office and has had no reason to regret his decision. He maintains an engineering department to give his customers the most modern and efficient lighting installations possible. He also has made it a point to assist architects in drawing up wiring plans. Mr. Farley is a prominent member of the local Kiwanis Club, the Chamber of Commerce and, as a member of the executive committee of the Southern California Association of Electrical Contractors and Dealers, helped draw up the plans for the recent consolidation of that body with the California Electragists.

Electragists You Should Know

H. W. Desaix, Paterson

H. W. DESAIX, Manager of the Paterson (N. J.) office of the Watson-Flagg Engineering Company, is well known in the East as the designer of electrical power plants, as well as starting and lighting installations, for many of the large industrial plants in that section of the country. Mr. Desaix was born in New York City in 1889 and began his career in the electrical industry, when he was fourteen years old, as apprentice with the Arc Electric Construction Company of New York. From 1905 to 1907 he co-ordinated his job with an electrical course at the Harlem Evening High School, thus gaining a happy knowledge of both practical and theoretical electricity that has stood him in such good stead in his work of plant designing. He spent two more years doing marine electrical work and then became a jobber's salesman, later traveling the country to promote outdoor electrical advertising. Since 1916 he has been Manager of the Paterson office of the Watson-Flagg company and, in addition to the plant-designing, which has made him well known in the industry, has been responsible for the executive duties usually imposed on a branch manager. He has also found time to do considerable writing on subjects of interest to the industry, being the author of these papers, among others: "How Can We Better Our Credit Conditions?," Electrical Contractor-Dealer, May, 1918; "Lighting the Silk Industry With Incandescent Lamps," I. E. S. Transactions, September, 1923; (co-author) "Unit Costs of Industrial Lighting," I. E. S. Transactions, May, 1924. Mr. Desaix is president of the New Jersey State Association of Contractors and Dealers, was Secretary for six years of the Master Electricians' Association of Paterson, served on the Board of Managers of the Illuminating Engineering Society for two years, and is an Associate Member of the American Institute of Electrical Engineers.

Going After "Quality" Business

By Ruel McDaniel

AN ounce of originality is frequently worth pounds of sales energy, to say nothing of being far less expensive. Moreover, it is just that little touch of the unusual, in many cases, that enables some one man always to set the pace for his competitors. Here we have an example of a contractor-dealer who went after the quality house-wiring business in a novel way. Of course, he landed it.

EVEN though the general public does not know a great deal about electrical wiring, it is still possible for the wiring contractor to make a prospective customer see why quality work and material should take precedence over mere price. It is in the hands of the contractor, if he goes about it properly, to show the average man why price should be actually one of the minor considerations.

Like everything else in the selling line, a wiring plan "takes a bit of showing" and the more originality put into display, the easier, in most cases at least, it is to make the prospect think in terms of results instead of dollars and cents.

One of the most interesting examples of those who put a little extra thought behind their selling plans is C. S. Homsher, owner of the A to Z Electrical Company, Denver, Colorado. In almost every case, Mr. Homsher figures a job on a straight time plus material basis which at all times assures him a dependable gross profit. His novel method of showing his wiring plans, however, is what gives him a distinct "edge," quite aside from the fact that it reduces his overhead to the absolute minimum.

Two years ago, Mr. Homsher built a $20,000 brick duplex residence, but at the time he had a very definite plan to make it more than a home. In fact, it was constructed to be a show room, shop, and a model "Home Electric," all in one. When it was finished, he opened the house to the public and hundreds came to marvel at the last word in wiring system and every-day use of modern electrical appliances.

From garage to sleeping porch, ceiling to cellar, not a chance was missed by Mr. Homsher to show quality wiring at its best. It goes without saying that business of the most desirable sort, not the bargain variety, came as the result of the opening of this practical display in his home.

As a matter of fact his home serves even now as one of the best wiring displays extant and when he wants to talk quality wiring to a difficult prospect there is no more convincing argument than a trip through his own house, where the prospect sees with his own eyes, rather than in his electrical imagination, just what a properly wired home is like. The "display" is, of course, much more convincing than if the same thing were duplicated in a store, for it is right in a home where the practical conveniences may be so much more easily recognized.

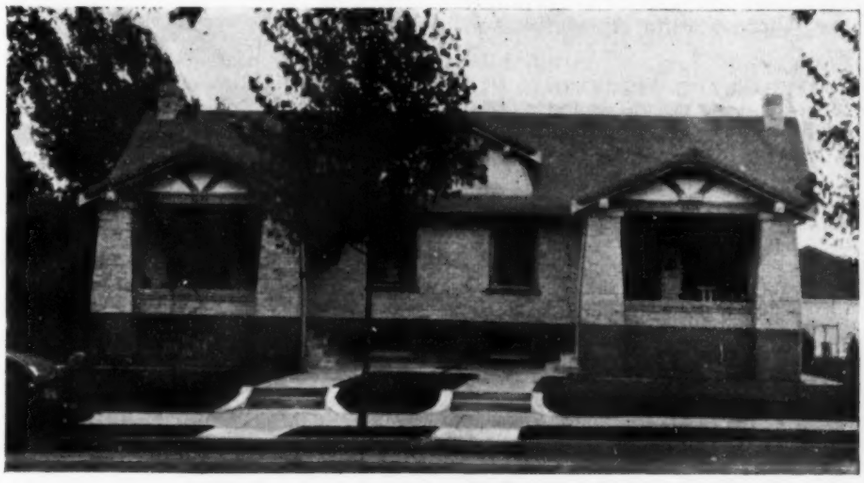
In the basement of his home Mr. Homsher has a small room set aside for the display and sale of fixtures and he reports almost marvelous results with this plan. "I believe nine out of every ten persons who visit this little fixture room buy something," he declares.

"The reason, I think, that it is so effective is because, being right here in my own home and out of the business district, prospects get over the idea of wanting to shop around. I don't carry a wide selection, because I believe that helps my sales instead of hindering them. I have one representative of every good type of fixture, not a number of them so near alike that one has to look twice to distinguish one from the other. The basement room is dressed up as much like a regular room in my home as possible, and that helps to get a prospect's mind off the idea of looking about in stores before making a decision."

Fixtures are polished and prepared for installation in a shop in the basement of the home, next to the fixture sales room. A large brick garage back of the house serves as a stockroom and all service trucks are furnished with a uniform supply of stock for use on the wiring jobs.

Although he is not centrally located in the city, Mr. Homsher does not confine his sales efforts to his section by any means. His specialty is home wiring, especially re-wiring, where a home owner is disappointed in his first wiring plan and is ready for one that he can depend on for the rest of his life. Seldom does Mr. Homsher bid on a competitive job unless his bid is solicited.

To get in touch with the class of prospects desired, he uses direct mail ad-



The Model Home Electric of C. S. Homsher, Denver, Colorado

vertising primarily. He makes frequent calls among contractors and architects for the double purpose of selling them more completely on the idea of better wiring and in an effort to get leads and recommendations for wiring work.

He does not cater especially to the builder of the more expensive public building, where the bidding usually is highly competitive, but goes after the customer who owns his own home and expects to remain there for the rest of his life. It is only fair to add also that Mr. Homsher is never satisfied, once he gets a customer, unless he holds on to that customer all of his life, or, we'll say the customer's life.

"I do not go after volume," declared Mr. Homsher. "Nor do I see any sense in taking a job without a real profit in sight. I had rather do a smaller yearly volume and still know that at the end of the year my profit will be something to depend on."

His business amounts to about $25,000 a year but his overhead is so light that it is easy for him to quote a customer a legitimate price and still show a net profit of a fourth of his total volume, above a reasonable salary for himself. All of which goes to show that it isn't the volume but the net profit that counts in the end.

Apprentice Training Plans in San Francisco

Electrical Industrial Association of San Francisco Joins With Contractors and Apprentices in Forming Training Agreement

A MOVEMENT, which will be followed with great interest by electrical contractors throughout the country, has been started in San Francisco with a view to giving suitable training, along specified lines, to apprentices. The plan originated with the Industrial Association of San Francisco which is not only to select the apprentices, but assist in their training at a school which will be established in the coast city.

In all routine of the training period the association is to retain full power to judge between the contractor and the apprentice, in the event of disagreement, by the provisions of an Apprenticeship Agreement signed by both the worker when entering training and the contractor as an employer. The full text of the Apprenticeship Agreement follows:

STARTING WAGE APPRENTICE: All new apprentices are to be started at trade at $3.00 per day when they begin work in the shop.

PROBATION: The apprentice is placed on a one-month probation period. The employer will not discharge the apprentice during this period until case is reviewed by the Apprenticeship Committee. At completion of this period the apprentice will be classified as a bona fide apprentice.

PLAN OF ADVANCEMENT: Advancement (if the apprentice is in good standing) as approved by the Apprenticeship Committee on the minimum schedule at rate of $.50 per day at end of each six months of training, except after three years have expired, at which time the apprentice is called a Junior Mechanic—if he qualifies by his practical work and the examination for that grade; and he is advanced at rate of $1.00 per day at completion of last two periods of six month advancements. This schedule is based upon $8.00 per day wage for all-around electrician —to be adjusted to any change in the journeymen basic rate.

MINIMUM SCHEDULE: Apprentice to be given advancement ahead of the schedule by approval of the committee if the apprentice demonstrates exceptional ability.

Starting wage

$3.00
3.50 after 6 mo. if in good standing
4.00 after 1 yr. if in good standing
4.50 after 1½ yrs. if in good standing
5.00 after 2 yrs. if in good standing
5.50 after 2½ yrs. if in good standing
6.00 after 3 yrs. if in good standing
7.00 after 3½ yrs. if in good standing
8.00 after 4 yrs. if in good standing

SCHOOL ATTENDANCE AND ADVANCEMENT: All apprentices in training agree to attend school when called upon and the employer will discipline the apprentice when necessary, as ordered by the Apprenticeship Committee. The apprentice must pass each course and examination for his grade before he is given advancement to next grade.

REGISTRATION: All apprentices must be registered at the Training Department of the Industrial Association who will keep a record of the apprentices and give them training cards showing their standing in the trade.

FOLLOW-UP: Every six months the apprentice will be required to re-register with the Training Department of the Industrial Association and have his training card signed by his employer before he is given an increase.

SHOP TRAINING: The employer will agree to give the apprentice the necessary experience in the various stages of his advancements to enable him to become an all-round mechanic. The purpose of this training agreement is not to develop specialists in the trade, but to assist and encourage the apprentice to become an all-round mechanic.

CLASSIFICATION OF APPRENTICE: All boys in trade can be classified as follows:

1. Helpers (not in training)
2. Apprentices (not in training)
3. Apprentices (on probation). In training.
4. Bona Fide Apprentice. In training.
5. Junior Mechanics. In training.

COURT OF APPEAL: Industrial Association will act as a court of appeal in all cases of complaints. The apprentice agrees not to quit job until case is heard by the Industrial Association. The employer also agrees not to discharge apprentice until case is heard. In special cases as approved by the Apprenticeship Committee, the apprentice will be transferred from one employer to another.

PROPORTION OF APPRENTICE: A fair proportion of apprentices to journeymen will be maintained in all shops under the agreement. There should not be less than one bona fide apprentice to three journeymen in any of the shops.

TRAINING COURSES AND EXAMINATIONS: The schedule of training will be developed and approved by the Apprenticeship Committee in cooperation with the Industrial Association.

SELECTION OF APPRENTICES: The apprentices will be selected by the Industrial Association and approved by the Apprenticeship Committee.

COMMITTEE FOLLOW-UP: The Committee will make a periodic checkup on progress of apprentices and operation of the Apprenticeship Agreement.

APPRENTICE AGREEMENT: Each apprentice will sign an Apprenticeship Agreement to be signed by his employer and filed with the Industrial Association. Inducements should be offered the apprentice in some form of bonus as he fulfills the requirements of his agreement.

More Than Accident Insurance Needed by Contractors

Practical "Safety First" Methods Necessary in Addition to Liberal Accident Insurance Policies by Every Electrical Contractor—Keep the Premium Costs Down to Minimum by Eliminating Accidents

By H. H. STINSON

ONE of the most common attitudes among employers who carry liability insurance is that they have done their part when the insurance is taken out and the premiums paid. They figure that all the rest of the responsibility lies upon the insurance company and make no effort to control accidents or to lower the loss ratio per accident. They feel that since it is not their money which is being paid out there is nothing to worry about and, furthermore, that since they have paid for their insurance their employees should get every possible benefit out of it.

This method of reasoning is as wrong as though a business man were to contend that the building he occupied was owned by somebody else and, therefore, it didn't make any difference to him whether it burned or not. All business is so interdependent these days that what hurts one business house inevitably has its effect on others and on whole industries in greater or less degree. Bad business practice by one firm is like a stone thrown into a millpond, creating ripples that ultimately reach the farthest shores. And carelessness about insurance is bad business practice. It is distinctly unfair; first, to a man's own business; and then, to his fellow employers within the industry.

To begin with, compensation and liability insurance is one of the large items of expense of an electrical contractor. It must be included in his overhead and thus enters into his success in gaining contracts whenever they are let on a competitive basis. Furthermore, the loss of the time of his employees reduces the available number of men he can use on his jobs and, where the men are integral and highly valuable members of his organization, accidents that take them away from their work, even for a short period, are bound to slow up jobs. When contracts must be done on a time limit basis, the loss of their services might well prove very embarrassing to the employer.

ONLY the short-sighted contractor feels himself entirely protected by employe's insurance. It isn't long, however, before he comes to realize that he has risked expensive labor delays on his jobs and has paved the way for higher premium rates in the entire electrical industry as well. This series of articles will be continued in an early number with a discussion of various "Safety First" methods now in practical use by some prudent contracting firms which regard employe's accident insurance as only the first step in real protection against serious loss in competitive business.—THE EDITOR.

The profits of a contractor are measured by the number of hours of labor he pays for and if men are out of work he is making no money on them. In the majority of cases, injuries are minor yet sufficiently serious to keep the men away a day or two or three. This time is so short that the employer does not wish to hire substitute workmen and loses, therefore, two or three days profit on the injured man's work.

Another consideration is that accidents break down the morale of the entire working force for a certain length of time following each accident. This is shown by a reduced efficiency of the whole organization, a loss of initiative, a slowing up of the work, and a disinclination to continue under the same conditions as those under which the accident occurred. This is apt to be particularly marked in the injured man when he returns to work.

A great many of these accidents causing immediate losses to the employer in the ways cited above would be avoided if the employer were to take the view that he is a co-sharer of the liability with the insurance company and that it is his own money that is paid out for compensation.

The funds to pay these losses must come from somewhere, for an insurance company must, at the very least, break even at the end of each fiscal year. When loss ratios are greatly increased by the carelessness of the insured, rates must automatically go up to cover these growing losses and a whole industry feels it. The only other recourse an insurance company has is to cut the negligent policy-holder off from its benefits; that is, after several warnings, to cancel the insurance. A case like this is on file in the records of Lynton T. Block & Company, insurance underwriters of St. Louis.

A certain policy holder seemed to believe that a doctor's services were a necessity in even the most minor cases of injury, cases such as a scratched finger or a bruised thumb, and these cases seemed to be of almost daily occurrence among his workmen. Each time it cost the insurance company from $1.50 to $2.00 and, in the course of a year, nearly two hundred of these claims were presented. The company finally notified the policy holder that it would renew his insurance only with a stop limit clause in the policy; in other words, that he would have to assume liability for each accident up to $20 or $25.

Permitting this man's insurance to run as in the original policy, which put all responsibility for payment of claims and medical costs upon the insurance company, would have been distinctly unfair to the rest of the industry for it would have been an influence toward

raising the rates for this insurance to everyone. As an instance of how this costs everybody money, the insurance underwriters referred to above at one time used a flat rate for electrical contractors in Iowa and Illinois. The accident experience of the contractors in these states was not sufficiently good to permit continuing this rate and a change was made to Manual rates based upon the experience, a change which was considerably more costly to all policy holders in these states. All the contractors in this territory had to pay for the negligence of a part of the fraternity.

The number of claims and the cost of settlement, therefore, are all determining factors in the making of the insurance rates. An increased loss experience means that rates will be advanced at the next revision by the rating bureau. If losses can be kept down in number and reduced in cost, it follows, as a natural sequence, that rates will likewise be reduced. Any action by employers that will keep the loss ratio low or lower will also have its effect on the tinkering with and liberalizing of the compensation laws by the state legislatures in states where such acts are in force.

Illinois Situation

For instance, Illinois accident experience has been bad and thus, on July 1 of this year, the legislature increased minimum benefits under the Illinois compensation act under certain conditions from $15 to $19 a week. The effect of this was to increase the manual rates for insurance an average of 6 percent. Another raise was forced by the increase in Illinois of the sliding scale of death benefits. Where before a widow with two dependent children received $4,000 she now gets $4,100; while a widow with three dependent children now gets $4,350 as against $4,200 previously.

One of the ways to keep down compensation insurance rates, of course, is to prevent accidents. There are accidents that are unavoidable, however, and the employer will also find ways to help the insurance company in these cases. The careful employer should eliminate unnecessary trips to surgeons, the sending of employees to doctors who are noted for excessive charges, and engaging of private rooms in hospitals when small wards would serve just as well. An injured man should be given the best and the proper treatment, but excessive charges and luxuries do not necessarily mean proper treatment.

First aid kits should be a part of each shop equipment and should be maintained on all important and large jobs. The prompt use of this equipment will often enable an injured employe to get back to work at once, whereas a day or two would be lost in time and a doctor's bill run up, even in minor injury cases, where the employe is sent outside for treatment. Serious and questionable cases, of course, should have prompt medical or surgical attention, but minor cases and first aid go hand in hand.

Accident Vigilance

Most important of all, however, when it comes to keeping down rates, is eternal vigilance against accidents, the "Safety First" work that has been going on in various industries for the last fifteen years. Out of a long experience with the electrical contractor class of insurer and the peculiar problems that are the electrical contractor's, W. S. Ferguson, of Lynton T. Block & Company, has outlined some of the ways in which the electragist can guard against injuries to his men. These recommendations are:

"Clean working places with orderly handling of materials and supplies around jobs are obvious factors of safety. Making it the business of some one employe on each job to see that all loose supplies are gathered up at least twice each day, and that scrap pieces are removed fully as often, are matters of economy as well as safety. Insecure or incomplete floors should be examined by the foreman and arrangements made with the building contractor to furnish safe footing and supports. Loose boards or timbers should be securely fastened, even if the construction is of a temporary nature.

Extra Precaution

"Where live wires are in place, extra precaution should be taken for the safety of the electricians who are exposed to this hazard. We all know what 220 or even 110 volts can do if the individual is in contact long enough. A recent newspaper account shows that a Missouri employe was killed, not by the accident that threw him in contact with the 220 volt circuit, but by the fact that he lay in contact for more than half an hour before discovery by a fellow workman.

"Rubber gloves and insulated tools should be supplied for the workmen wherever live current is present. No precaution is too great.

"Soldering irons and acid are a source of burns which, while not necessarily fatal, are nevertheless the source of injuries which are slow to heal and expensive to settle. When working overhead on housewiring jobs, goggles should be furnished to keep dirt and chips out of the eyes of the workmen."

No doubt accident prevention requires extra work from both employer and employees, but both will find it pays dividends; to the former, in actual money; and, to the latter in bodily health. Intelligent thought applied to the reduction of the number of accidents and in keeping the cost of caring for them, to say nothing of settling them, within reasonable limits will be reflected not only in the rates promulgated by the Rating Bureau, but also in the experience for the electrical contractor class and the savings that can be returned under reciprocal or mutual policies.

BOOK REVIEW

COILS AND MAGNET WIRE—*By Charles R. Underhill.* Published by McGraw-Hill Book Company, New York. 494 pages. Price $4.00.

Of the twenty-four chapters in this book, fourteen deal with elementary electrical theory and the theory of coil design. The treatment of these subjects is highly technical and very thorough. A large amount of data is presented in the form of tables and graphs.

Much information of a practical nature will be found in the five chapters dealing with the properties of copper and aluminum, copper specifications, the American wire gauge, and magnet wire. The solid insulating materials used in coil manufacture, insulating varnishes and methods of treating coils are very fully discussed.

The book is concluded with a brief general description of winding machines, various forms of coils and testing methods.

This is primarily a technical treatise intended for the designer of coils for electrical machinery and apparatus. However, certain sections of the book, principally those on insulating varnishes and their use, will be of considerable interest and value to the motor repair man.

An Analysis of the 1925 Code Changes (*cont.*)

Prepared by ROBERT A. GOELLER
Vice President Hatzel & Buehler, Inc., New York

It is most important that a contractor not only knows the changes made in the National Electrical Code this year but that he also understands why the changes were made and can therefore be sure of his work. It was with this thought in mind that the author compiled these notes. This is the third installment of this series in THE ELECTRAGIST, others having appeared in the September and October numbers. Mr. Goeller's notes will continue in the next issue of this publication, after which they may be had in booklet form.

ARTICLE 9—GROUNDING

901. General

a. The word "*appreciable*" has been changed to "*objectionable*" as more fitting.

b. This is a new paragraph and covers the connection and contact with ground and also discourses on the advisability of permission being always given to use water piping as a ground.

c. Old paragraph "b" is now paragraph "c" and an additional sentence has been added before the last one to cover driven pipes or rods, their continuity and minimum depth.

d. This is old paragraph "c".

e. This is old paragraph "d".

902. Distribution Systems

d. This paragraph has been reworded somewhat to define separately the grounding of single and multi-phase alternating systems. Thus, on single-phase systems, this wording more definitely describes the point of ground connection as follows: "The ground shall be made at each service *on the line side of the service switch.*

Multiphase A. C. systems are required to be grounded in like manner "*if the grounded conductor of the multiphase supply system is brought to the premises for rendering service*". The word "grounding" has been added before the word "connection" in a new sentence which reads: "By permission of the inspection department the grounding connection may be made on or near the transformer."

It is believed that this latter requirement is added to cover in part three phase 4-wire systems where the center point of the star connection is connected to a fourth wire which is also brought into the building and is grounded in many cases outside of the building. This method of grounding such wire has been required for some time in certain localities by the electric servive companies.

e. Here again a paragraph has been broadened to cover the different types of multiphase systems as in section 805 o. At the end of this paragraph "two phase—three phase", in brackets, has been increased in scope to read: "Two phase or three phase, three, four or five wire systems."

h. There has been added after "within the building" the following: "Except as provided in paragraph "b" of section 906 of this article", this latter paragraph has to do with grounding in supply stations.

905. Grounding Conductors

a. The old paragraph requiring that "The grounding conductor shall *invariably* be composed of copper", has been changed to permit other metals that do not "corrode excessively under existing conditions".

b. The old paragraph has been changed as follows: "An automatic cutout shall *not* be placed, etc.", is modified to read: "No automatic cutout shall be placed, etc." The latter portion of the paragraph has been reworded for classification as follows: After "where its operation", there is added the new phrase "will result in the automatic disconnection from all sources of energy of the circuit leads connected to the equipment so grounded".

c. The first sentence of this paragraph has been reworded to cover the installation of a grounding conductor when not protected by metallic piping, while the second sentence covers its installation when installed in metallic piping and it is interesting to note that under certain conditions prescribed, a bare conductor can be used.

d. To treat ground connections and conductors with more care, especially in small installations, and to prevent them from being broken, the first sentence has been reworded. The last sentence regarding lightning arrestor ground wire remains the same and it is presumed that the conductor may be bare when it is installed as noted in the latter part of paragraph "c".

g. A very important change has been made in this paragraph concerning grounding of direct current systems, in that instead of being "not less than *one fifth that of the conductor to which it is attached*", the paragraph now reads: "Not less than *the largest feeder of the same system leaving the station*". It should be also noted that this applies to station grounding as section 902a only requires grounding of 2-wire D. C. systems within the building when fed from overhead systems, while under section 902b the grounding of wire D. C. systems are required at the station or stations but not at individual services.

j. "The ampere capacity of a conductor" has been changed to read: "*The size* of a conductor (wire or pipe)" so as to be consistent with tables which give ground conductor size, not ampere capacity. Attention is also called to the additional table provided giving the "size of grounding pipe", the minimum size of which is one-half inch. As this paragraph has to do entirely with grounding of equipment such as motors, transformers, etc., this minimum size should not be confused with the minimum size of driven ground pipes given in section 901c or with the sizes given

in section 905 g and h covering direct and alternating current systems respectively. While No. 10 wire is the minimum size given in the table, attention is called to section 1403b which permits a separate grounding wire not smaller than No. 14, for grounding fixtures and, if fixtures be considered as equipment, it is obvious that this paragraph becomes an exception to the general requirements for grounding conductors.

k. There has been an important addition to this paragraph in that the first sentence, following "barriers or guards", has been supplemented to cover the elimination of grounding ordinarily required under this paragraph and reads as follows: "or where inaccessible to other than qualified persons in which case grounding is required only when voltage exceeds 750." Another new sentence which recognizes the obvious danger of failure in instrument transformers and endeavors to guard against them, reads as follows: "If exposed to higher voltages through transformer windings or otherwise, secondary circuits of current and potential transformers of less than 750 volts shall be isolated or grounded unless placed in grounded conduit or other suitable duct, or identified or guarded as required for conductors of the highest voltage to which they are exposed". The last sentence has also been reworded to read: "When a grounding conductor is used it shall be not smaller, etc." as a matter of consistency.

l. Again the term "insulated from ground" has been reworded to read: "Free from metallic contact with ground" and conforms with changes in sections 404b, 503h, 504i and 505f, such changes providing a more practical and understandable requirement.

m. This is old paragraph "n," paragraph "m" of the previous code being omitted entirely, presumably on the basis of now being covered under paragraph "j."

906. Ground Connections

c. A new sentence has been added to the end of this paragraph permitting of grounding on the building side of water meters when they are outside of building, in pits, under flooring, or similar conditons as described.

1003. Motors

f. The term "the capacity" has been changed to read: "the rating", in order to conform to the manufacture standard in which the equipment is "rated" to perform in a given manner under certain conditions and may not necessarily mean that their "capacity" has been reached.

g. In the first sentence "ungrounded motor leads" has been changed to read: "grounded leads", "motor" presumably being deemed superfluous. Between the first and second sentence there has been added a new one, as follows: "The switch shall have a continuous duty rating at least equal to 110 percent of the motor name plate rating". As in section 809-g, the wording "cannot be left in the starting position, without the proper running overload protective devices in the circuit" has been modified to read: "cannot be left in the starting position" and eliminates a requirement that was vague and misleading in the light of present day design of motor starting apparatus. This change is also similar to the modification of section 809-g.

h. This is old paragraph "i" reworded, the beginning "except for auto starters" being omitted and the paragraph starting with "The switch", etc., in the same sentence "where omitted" has been changed to "if omitted" and "motor starter", changed to "motor starting device". The old second sentence has been merged with the first one, a comma replacing the period after "circuit" and "except when autotransformer starters are used, etc.", continuing the first sentence. Likewise in the second sentence the term "Autotransformer starters" replaces "Auto starters", the former being more specific and preventing any misunderstanding as to its meaning.

i. This is the latter part of old paragraph "h", the former part concerning the capacity of motor switch being indefinite and further due to the fact that paragraph "g" now definitely defines its rating, its omission is appropriate. This paragraph now deals entirely with the application of disconnecting type switches used in conjunction with autotransformer type starters.

j. It has been noted that old section 808-e has been omitted from its old place and inserted here without change. This is logical as it has to do with protection against reversal of A.C. motor rotation on elevators, cranes, etc., whereas section 808 has to do entirely with automatic overload protection of motors.

1004. Auto-transformer Starters

b. This paragraph now starts. "The coils and switches, etc.", also the wording "intended for use in dusty or linty places or when flying of combustible material are present", has been changed to read: "Used in places where combustible dust or flyings are liable to be present in the air in sufficient quantities to produce an explosive mixture". It is easy to understand that the modified wording more correctly expresses the true intent of the paragraph. A new sentence has also been added to the old paragraph of which note should be taken as follows: "All load carrying contacts of such switches shall be oil immersed unless enclosed in dust tight metal case".

ARTICLE 11

TRANSFORMERS UNDER 600 VOLTS.

1102. General

a. A minor change has been made as follows: "No oil transformer" now reads "No oil filled transformer" and corrects a phase that was not quite complete.

Switches

ARTICLE 12

1201. Construction of Knife Switches

c. This paragraph has been modified considerably "can be read when the switch is instolled", is changed to read "can be read after the switch is installed". The logic of this change is obvious. The classification and marking table following the first sentence has been removed and added under paragraph "f", the last paragraph remains in part, although the marking of switches definitely for A.C. or D.C. and also the frequency in cycles has had the limits raised from 1000 to 1200 amperes. The last sentence concerning 300 ampere switches has been removed and added as a footnote under Table No. 1 of paragraph "f".

f. As mentioned under paragraph "c," the classification" and "marking" has been included under this paragraph. Also table No. 1 and 2 of old paragraph "f" have been combined in new table No. 1. The principal change therein being that under 500 v. A.C. the table now reads: "For both 250 volt D. C. and 500 v. A.C." This point was covered under "classification" and "marking" in old paragraph "c", but

was not repeated in table No. 2 of paragraph "f". Thus, with the consolidation and additions, this paragraph is now concentrated in an effective manner. Three footnotes have also been added, the first covering 300 ampere switches originally mentioned in the last sentence of old paragraph "c" and is without change, the second one refers to triple pole switches with 125 v. spacing between blades for use on three wire 125v-250v systems and refers to the table for correct spacing. In the third footnote having to do with triple pole switches having 250 volts between adjacent wires and not over 500 volts between the outsides such as might occur on 3 wire, 250 volt 2 phase systems, a specific requirement is provided in that 30 ampere fused switches used on such a system shall be spaced as per IV and the fuses shall be of the 600 volt classification. Under the above changes old table No. 3 now becomes table No. 2 and it should be noted that spacing "When clear of surface" for "not over 600 volts" the dimension of 1¾ inch has been changed to 1."

h. The wording "switches rated above 400 amperes" has been changed to read "Switches rated above 600 amperes". This change is consistent with correction noted in Errata sheet sent out with the second issue of the 1923 edition of the code.

1202. Installations of Switches; General

a. This paragraph has been reworded as follows: After "mechanical injury", the word "or" is changed to "nor", also "easily ignitable stuff" now reads "easily ignitable material", the balance of the wording of this sentence is also rephrased as follows: "nor be located in places where combustible dust or flyings are liable to be present in the air in sufficient quantities to produce an explosive or inflammable mixture." In the second sentence, where the conditions of the first sentence cannot be complied with, it will be noted that "Switches, circuit breakers and similar devices, unless of the dust-tight or immersed type, shall be enclosed in approved metal boxes or cabinets and shall be of the external operable type". The old paragraph implied the enclosure only, while the new revised paragraph requires that they be enclosed and "externally operated" as well. The footnote has been omitted covering installation of switches in extra hazardous locations as under article 32 Extra Hazardous Locations. Section 3201, paragraph "b" in the footnote thereof it will be seen that paragraph 1202a is referred to for the installation of switches, circuit breakers, etc., under general as well as extra hazardous conditions, and the reference to another section of the code is unnecessary.

1204. Number of Poles Required for Switches

a. The wording of the second sentence concerning 3-way switches has been changed, and by making a diagram of a 3-way circuit wired in accordance with the new paragraph, it will be noted that the live or ungrounded pole of the circuit is connected to the common point of one 3-way switch while the grounded neutral pole of the circuit is connected to the screw shell side of the fixture socket or outlet device, the circuit being completed from the other side of the fixture to the common point of the second 3-way switch, thence through the two "runner" wires between the 3-way switches, from this it is evident that the phrase in the old paragraph, "and shall be so wired that only one pole will be carried to either switch" is incorrect and that the wording "and shall be so wired that only one pole will be carried to the switch" is correct in the light of the true meaning of the paragraph. In the interest of wiring economy, it is possible to wire 3-way circuits with one side of the circuit to one "runner wire and the other side to the other runner" and if a diagram is made of this type of circuit it will be noted that one operation of the 3-way switch will open the grounded neutral leg which is definitely prohibited in this paragraph, and it will also be noted that the polarity at the fixture changes back and forth with the operation of the switches and thus at times the screw shell of the socket would be connected to the "live" or ungrounded wire which is also distinctly prohibited in section 1402b.

Switchboards and Panelboards

ARTICLE 13

An explanatory note in brackets under the caption has been added to exclude "switchboards or portions thereof used exclusively to control signal operated by batteries, and to prevent misinterpretation the sentence continues "but does not apply to the charging panels where current is taken from light or power circuits".

1302. Switchboards; Material and Wiring

f. Presumably this type of wiring is not considered to represent any greater hazard than that permitted under section 807, paragraph "f", wherein lighting and appliance branch circuits are permitted to be protected by a 15 ampere fuse when operating at 125 volts. Therefore this paragraph has been modified to permit the use of 1320 watts instead of 600 watts and that such circuits may be protected by approved fuses up to 15 amperes.

ARTICLE 14

FIXTURES, LAMP SOCKETS AND RECEPTACLES, PLUG RECEPTACLES, AND OTHER OUTLET DEVICES.

1401. Construction of Fixtures

c. A change has been made in the thickness of tubing used in making threaded arms and stems from .05 in. to .04 in. as noted in errata to the 1923 Code.

j. The second sentence has been omitted presumably on the basis that the requirements as given in the footnote are sufficient. The footnote, however, has been modified slightly, the word "permanently" being omitted twice and following "thickness" it has been replaced by the term "securely" which is a more logical term considered in the light of practical applications of canopy insulators.

1402. Wiring of Fixtures

b. The identification of the fixture wire is comprehensively treated in this revised paragraph. Wire manufactured with a white or natural gray covering is covered as well as a means of identifying the conductor by painting, presumably after the fixture is wired. The requirement of a tracer thread is also given.

The marking of terminals required under Section 206 "e" to "h" is referred to as being pertinent to this paragraph as the marked wire and marked terminal are required to be connected together and are to be on the grounded side of the circuit. It will be noted that presumably due to the reference cited, that the last sentence concerning the marked wiring being the grounded wire, has been omitted entirely.

e. To the end of this paragraph

there has been added the following, "unless type S cord is used" and is consistent with the wording of the last sentence of section 603c.

1403. Installation of Fixtures

a. Reflecting the broadening practice of grounding, this paragraph now requires all straight electric fixtures to be grounded with the exception as noted under sub-paragraphs No. 1 and 2 which replace old sub-paragraphs No. 1, 2, 3. New sub-paragraph No. 1 deals entirely with fixtures mounted on ceilings of metal or containing metal lath and the requiremnts of grounding or the provisions necessitating the use of insulating joints, supports and canopy insulator is clearly defined. New sub-paragraph No. 2 is in reality old sub-paragraph No. 1 with the additional wording at its end "need be neither grounded nor insulated". It is interesting to note that it apparently recognizes no great hazard is entailed from the fixture being in contact with its mounting surfaces when other than metal or containing metal lath as defined, even should the fixture wire on the live side of the circuit come in contact with the metal of the fixture through abrasion or otherwise.

b. This is a new paragraph formed in part from the latter portion of old sub-paragraph No. 2 of paragraph "a" and its wording sets forth in a clear manner what the Code considers effective grounding for fixtures. To this paragraph there has been added a very interesting requirement, permitting the use of "a separate grounding wire not smaller than No. 14", and thus in reality Section 905j which provides that No. 10 is the minimum size ground wire permissible for "equipment" is somewhat qualified, should fixtures be considered as such and therefore becomes an exception to the general requirements of grounding conductors.

c. This is a new paragraph built around the implied requirements of old paragraph "a" which required all fixtures to be insulated from their supports unless excepted in sub-paragraphs 1, 2 and 3, which did not specifically mention combination gas and electric fixtures under their exceptions, and it was by this reasoning, therefore, that insulating joints were required. The definite statement, however, that they are required for combination gas and electric fixtures absolutely eliminates all chances of misunderstanding on this score.

d. This is old paragraph "b" and fills in paragraph "d" which was omitted, as noted in errata to the 1923 Code.

e. This is old paragraph "c" without changes other than the re-lettering of the paragraph.

f. This paragraph has also been reworded to clearly define the support of fixtures although its general sense remains the same.

1404. Lamp Sockets and Receptacles

a. Three sentences have been added to this paragraph and a change is necessary at the end of the first one as follows: "Rating, as specified in the following table" now reads "as specified in the table following this paragraph." The additional sentences are important in that they require the switching mechanism if single pole connected to the center contact or to be double pole and is consistent with Section 1402 "b" which requires the grounded wire to be connected to the screw shell of the socket and if the switch mechanism was connected in this side of the circuit which is almost invariably grounded it would really conflict with Section 1204 "a" which prohibits a single pole switch in any neutral or grounded wire. The date of September 1, 1926 for the regulation to go into effect is presumably to allow the manufacturer and supply houses sufficient time to dispose of stocks on hand. In the last footnote ("convenience outlets") has been changed to read ("appliances and convenience outlets") similar, as will be noted, to the change in other sections where "convenience outlets" are mentioned.

g. It will be noted in the footnote that the dimensions of the hole in bushings for reinforced cord has been changed from 15/32 to 13/32 inch and is in accordance with correction noted in errata sheet sent out with the second issue of the 1923 edition of the Code.

h. The wording in the first sentence concerning the use of socket when combustible dust or flyings are present, has been modified for clarity, otherwise this paragraph is the same as the old one.

i. A slight change is made in that "inflammable stuff" has been changed to read: "inflammable material" and this wording immediately following "or where exposed to flyings of combustible material", has been omitted.

j. This paragraph which is a repitition of the wording of Section 612 "d", covers the use of handle, socket and guard for portable lamps where liable to come in contact with inflammable materials.

k. Due to the addition of new paragraph "j", old paragraph "j" has been relettered, otherwise there is no change.

l. This is old paragraph "k" and, to avoid repetition of wording it now simply refers to section 1403 "f" which covers the necessary requirements for supporting receptacles as well as fixtures.

m. This is old paragraph "l" without any change.

n. This is old paragraph "m" relettered ditto.

o. This is a new paragraph and is quite an important one as it prohibits the use of receptacles of the Edison screw base type less than 4 feet above floor unless for use only as lamp holders. It is presumed that this paragraph is deemed necessary due to the hazard presented by the large aperture left if used for an attachment plug, when the plug is removed, perhaps also the danger of children unwittingly tampering with them or the fact that they are not considered sufficiently rugged to stand the abuse when serving portable devices where the flexible cord lays about the floor and furniture, contributes to the judgment that they shall not be used except as noted.

1405. Rosettes

a. The capital "r" of rosettes has been changed to a small "r", as per errata in the 1923 Code.

1502. Mercury Vapor Lamps

b. In the second sentence a comma has been added after "the inspection department".

A recent survey of the world's telephone situation, as of, January 1, 1924, indicates the astonishing lead which the United States has taken in the use of that invention. Of the 24,576,121 telephones in the universe at that time no less than 15,369,454 were located in this country. Germany, statistics show, was the second greatest telephone country with Great Britain third with 1,148,095 stations.

The Ins and Outs of an Outlet

Scene: Reception Hall of a residence. John Smith, a contractor, has been called in to figure a housewiring job and, after looking over the house with Mrs. Jones, comes back to the reception hall to complete his estimates and arrive at a figure.

SMITH—Well, I guess we have gone over everything and if you will pardon me for just a moment I will run through these figures and give you a price. You have had other figures on this work?

MRS. JONES—Yes, my husband had a man look the house over last night. He made several suggestions and additions to our original plan, such as extra outlets for appliances and some switches we had not even considered. I have included his suggestions in your list of outlets.

SMITH—I find we have listed twelve ceilings, thirteen brackets, seven single pole switches, two 3-way switches, thirteen base plugs, front and rear bells and a transformer.

MRS. JONES—I don't think he figured any base plugs, as you just mentioned, but he does include thirteen convenience outlets that you haven't mentioned.

SMITH—Oh, that's the same thing as base plugs. Some high brows are trying to give them fancy names. Now that you mention that, I can tell you who figured the job for you. Yes, he belongs to the National Association of Contractors, but that isn't what they call the Association. It's a funny name I never can remember. That bunch is always getting up something new; never satisfied to leave things alone. Another thing, they are always monkeying with the Inspection Rules, making it harder for the contractor to do a job. They claim it makes the work safer and encourages the people to use more electrical things. I wouldn't waste time and money with such bunk.

MRS. JONES—Don't you believe in improving your business and being up to date?

SMITH—Electricity is Electricity and you can't change it by puttin' on any frills.

MRS. JONES—Suppose the automobile builders had been satisfied with the first car that would run.

SMITH—That's different; people want autos for pleasure and comfort; you want electric light to see things with, that's all!

MRS. JONES—I don't agree with you, Mr. Smith. I think the many and varied lamps, fixtures and appliances you can use in the home are capable of producing more than the automobile, by way of beauty, comfort, pleasure and convenience. I have a friend who has really transformed her home by the use of several shaded lamps and fixtures. I was inclined to agree with your idea of the matter until I thought about the effect in her house.

SMITH—I can't see why you want to pay for light and then cover it up. You know when you shade a lamp you lose a lot of the light.

MRS. JONES—Yes, but you also pay for curtains, furniture, rugs and any number of other articles for beauty. Why not use other means for the same purpose?

SMITH—Well, you're the one to pay the bills. This job is going to cost you a lot more than you expect, with all these extra outlets. If you left the matter to me you would be money ahead for wiring and also for light bills. Using your list my price is $176.00. If you leave out some of these outlets—that we seldom put in—I can do the work for a great deal less. The difference in price will almost pay for your fixtures, if you buy them from me.

ONE of the pleasing features of the Convention at West Baden was a playlet, The Ins and Outs of the Outlet, given by the authors, Mr. and Mrs. Walter J. Collins of Chicago. It is reprinted here with the thought that electrical clubs throughout the country may find it an interesting educational feature at their entertainments which are open to the public.—EDITOR.

MRS. JONES—What would you suggest in cutting down the amount of work?

SMITH—Well, in the living room you show three base plugs. We seldom put in more than one. You could go into most all of the houses in this block and find only one and everybody seems satisfied. You have bracket lights over the fireplace. I would cut them out. You never would use them enough for what they cost. If you have a nice bowl fixture in the center you would save money because these new advertised fixtures cost a lot more than they are worth.

MRS. JONES—But the Electric Home had all these outlets and fixtures.

SMITH—Sure, that place was run to boost the light bills for the Public Service Company. They tried to get me to take part in it, but I didn't fall for it, you can bet on that!

MRS. JONES—Now let's see—in the dining room I have a center light, a switch, two brackets and two baseboard outlets.

SMITH—Why not put a big light in the center and you can cut out the bracket lights? You want the light on the table anyway. We can put an extra socket on the center fixture and cut out the baseboard outlets. You can use this socket for a base plug. If you use base plugs you will be tripping on the cords.

MRS. JONES—I can see we could save quite a bit in the dining room by taking your suggestions. Now we come to the kitchen. Let's see, we have one ceiling outlet and switch, one bracket and two convenience outlets—or base plugs, as you call them. Somehow, I rather like to call them convenience outlets—it seems to identify them more appropriately.

SMITH—Call them anything you want, but I learned to call them base plugs and that's good enough for me.

MRS. JONES—You still drive a horse and wagon in your business, don't you?

SMITH—Yes, mam, and it's a lot cheaper than an automobile! Now, let's see, one ceiling and switch, one bracket and two base—or convenience outlets. You won't find a kitchen in town with all these outlets—I would put a two-light chain drop from the ceiling and use one of the sockets for your flat iron or any other thing you want to use.

MRS. JONES—That would save several dollars.

SMITH—Sure, you won't miss them, either. Now the front bedroom—one ceiling, one switch, two brackets, two base plugs. The fellow who wrote this list could sell gold bricks! Why, all we put in a lot of fancy houses is a ceiling outlet. No wonder this runs too high—you can cut ten dollars on that room alone.

MRS. JONES—I would like to save as much as possible.

SMITH—In the upper stair hall—one ceiling, one bracket for night light, two 3-way switches, one base plug. You sure enough can't be thinking of cost when you put all those outlets in. We can put the ceiling right over the newal post and everybody will know where the string on the chain socket is. Then we can cut the 3-way switches out—cut out the base plug. Yes, and you can cut out the bracket and put two lights on the ceiling fixture, using one for a night light.

MRS. JONES—It's surprising how much a person can save when they get hold of the right kind of a contractor. The other man that figured seemed to feel that we couldn't get along without all the work he suggested!

SMITH—You probably agreed with him on a couple of suggestions and he went right at you with both feet. I know his kind, always trying to get people to buy more, in place of helping them save expense.

MRS. JONES—I guess you are right—now the bathroom. We have two brackets, a convenience outlet and a switch. The brackets are to be on the sides of the mirror and the convenience outlet near the wash bowl.

SMITH—Four outlets and you only need one. How about putting a ceiling light in the center with a pull chain socket, like everybody else does?

MRS. JONES—In each of the other bedrooms we have a ceiling bracket, convenience outlet and a switch.

SMITH—Let's forget this bracket switch and base plug idea for bedrooms. You wait till I show you how cheap I can do this job and you will thank me for it.

MRS. JONES—We have four outlets and a switch shown in the basement. What would you suggest?

SMITH—Well, a ceiling outlet by the laundry tubs would be all right. The switch really should be included, as you might have trouble finding the socket in the dark.

MRS. JONES—I guess we have covered the whole job. Now for the bad news as to the cost.

SMITH—Now, let me see. We have cut out thirty-one outlets and every room has a light in it. You save three dollars on every one of them. Now, my figure is $83.00. I'll bet that makes the other fellow's price look sick!

MRS. JONES—Well, it is much lower—I guess you get the job. When could you start it?

SMITH—I have my man working on that new building across the street. I will have him come right over and look the job over. Will you wait just a minute while I call him? (*Outside*). "Oh, Mike! come over here!"

MRS. JONES—Mr. Jones will be pleased when he finds I have saved so much money.

(*Enter Mike*)—MIKE—Mrs. Jones?

MRS. JONES—Yes, come right in.

MIKE—(*Looking around*). Nice place you

have—isn't this house a good deal like that one at the corner?

MRS. JONES—Yes, the inside is almost a duplicate. Do you want to go through each room?

MIKE—No mam; I know it like I do my prayers. You see the old man wired that place and I have been back there about once a month putting in extra outlets. (*Mike looks over list*). And from the looks of this list you and I are going to see a lot of each other.

MRS. JONES—Mr. Smith and I have gone over each room and I guess we have everything we will need.

MIKE—(*Looking into living room*). I see you have a fine table lamp already.

MRS. JONES—Yes—my sister gave me that for an anniversary present.

MIKE—(*Scratching head*). Well, you won't be gettin' a idea of movin' the furniture around in that room much when I get through.

MRS. JONES—Do you intend to nail the furniture to the floor?

MIKE—No, but with that one base plug under the front window you can't move the table or lamp, and the easy chairs will stay where the table does. If you get any floor lamps they will stay over there also.

MRS. JONES—Well, I certainly do want to change the room arrangement!

MIKE—That's why I said that you and I would get better acquainted. If I had my say—I would put a plug on the west wall and another on that north wall—then you could move things around to your heart's content. That's what I finally had to put in at the corner.

MRS. JONES—Funny, I never thought of that condition. After all, I guess you better put in the other two plugs.

MIKE—Yes—you know, getting a job done and then living with it is two different things. Guest closet—funny thing about them. They ain't guest closets, they're guess closets! Everybody forgets to put a light in them and they have to guess where they put things inside. I'll bet you don't know what's in there now.

MRS. JONES—I have had trouble like that and I hate to have Mr. Jones go in there at all. He makes such a fuss and never finds what he is looking for. I guess, too, you better put some sort of a light in there.

MIKE—(*Reading*)—I guess you'll be getting a vacuum cleaner after we get through.

MRS. JONES—Oh, yes—I think they are wonderful!

MIKE—Well, don't get excited and throw your broom away.

MRS. JONES—I hardly expect to do that, but why do you mention it?

MIKE—You will need it to keep the stairs and hall clean.

MRS. JONES—Why, I expect to use the vacuum cleaner on the stairs.

MIKE—Well, get a wireless one when you you do, 'cause there's no place to attach it in this specification.

MRS. JONES—Well, of all things—I wonder what I was thinking about when I let Mr. Smith cut that outlet off the list.

MIKE—He was doing the thinking and you was doing, excuse it Mam, but the Yessing. Dining room—that table will look swell with cords hanging down from the fixture for your toaster and percolater—so don't jerk the fixture off the ceiling when you have the vacuum cleaner attached to it.

MRS. JONES—That will look odd—especially when I have guests! No, I can't have that. I guess we better put those convenience outlets back on the list.

MIKE—Sure—then you can put up any kind of a fixture you want—this way you can't have a fixture that doesn't reach the sockets. Kitchen! Well, maybe you and the rest of the folks are athletes and jumping over cords is an indoor sport for you. The way you have this laid out you must put the stove and sink on wheels so you can pull them out under the light—that is, if you want to see what you're doing. Just imagine yourself standing there ironing with the cord banging you in the face. No, mam! Just put a light up at the ceiling with a switch, then you will have plenty of light all over the kitchen, and then put plugs on the wall for your iron and other appliances. One near the window off the porch, so you can iron outside when it's hot. This is your workshop and you can't do the job without proper arrangement—take my word for it!

MRS. JONES—I can see your point—but the cost is running up and I expected to get the job done for Mr. Smith's figure.

MIKE—Don't let me interfere with your plans, Mrs. Jones. But it will cost you a lot more to have me come back and put the work you will want done after you see how it works. Now take that house at corner—It cost more for the odd jobs I have done there than the original wiring job.

MRS. JONES—I suppose you are right—the kitchen should be properly wired. Well—put in the switch and plugs.

MIKE—Front bedroom—let's see. There is a fine big closet for that room. You know, I think the fellow that built these houses was a great lover of children 'cause that's a great place to play hide and seek. You will play it too, Mam, only you don't realize it now. You will hide and seek everything in there because there is no light to see what you are doing. A light in there would change the game to 'put and take."

MRS. JONES—You have an odd way of expressing things, but I see your point and I am going to have a light in there, by all means.

MIKE—It's nice the dresser is on casters so you can pull it out under the ceiling light when you comb your hair and doll up to go out. You don't care for dresser lamps or a chance to use a heating pad or any of the other things handy when someone is sick, do you?

MRS. JONES—Goodness, if I listen to you, it will cost more for the electric work than it does to build a house!

MIKE—I was reading only the other day where the cost of the electric wiring in the Model Electric Home was less than the painting. I thought it was a misprint, but I asked the painter how much he would get for painting the corner place and, sure enough, it was a little more than the wiring and they have that job to do every two years. It don't improve the place as much as a good wiring job, to my mind.

MRS. JONES—Come to think about it—we are still under what it cost to paint this house last spring and I certainly expect to get a great deal more help and enjoyment out of electricity than I do out of the paint.

MIKE—When you buy an automobile you think of what it will do for you, not just what it cost. I don't know why people can't apply the same idea to electricity, a thing that can do so many more pleasing and helpful things and for so little. This upper stair hall—a pull chain socket! Well, if you get up that far you don't need any light. You can have one of the family pilot your guests around from there. Do you want to spoil the whole job right there? Put 3-way switches, I mean put a switch at the bottom of the stairs and one at the top, so you can have light up and down the stars, and put a bracket on the wall for a night light. I'd leave the plug in for the vacuum cleaner or it would be fine for a lamp if you wanted to put a small table up there. That's the last job I did up at the corner and you should see the difference it makes. I wish you would take a look at that place. That lady sure knows how to make a home out of a house!

MRS. JONES—Indeed—well, maybe I have a few ideas on the subject. In fact, I wanted just that arrangement, but Mr. Smith talked me out of it.

MIKE—Outing outlets is the best thing the old man does. (*Reading*) Bathroom—I wonder if the boss shaves the back of his neck or his face? You know I think one reason why a man never forgets all the cuss words he knows is this giving him a light back of his head to shave his face with. Wouldn't it be worth while putting in a plug for a heater or a vibrator and other appliances that are used in the bathroom?

MRS. JONES—Mr. Jones does fuss a bit while shaving and, as you say, doesn't quote Bible passages, but I thought it was because he is in a hurry. He's kind of got the habit of shaving at the office. They have lights at the side of the mirror over the wash basin there.

MIKE—You put them in there and he will forget all about the few outlets you have added to make your job easier.

MRS. JONES—Let's do that. You certainly are making use of your experience. You should be the contractor and Smith should be the mechanic.

MIKE—Thanks, mam. Only it don't take anything but common sense to get a good job of wiring. I just ask myself how would I live in this house, and then I plan the job accordingly. Almost every job I go to I see mistakes and, bein' Irish, I can't keep things to myself, so out they come. I get in bad many's the times, but I make more friends than enemies and lots of folks give the old man a job if he will send me out to do it.

MRS. JONES—Now the rear bedrooms—we decided to put in a ceiling outlet only with a pull chain socket on the fixture.

MIKE—I'll tell you a stunt that I saw in the movies that will make that work. This was in the Our Gang Comedy. The kids tied a string from the light to the bedpost and also to the door. When you opened the door you turn on the light and you could reach up and turn it on while lying in bed. Yes, it was funny—you'll get a good laugh out of it every time you try it.

MRS. JONES—I don't care much for comedies, at least in my home—so that arrangement won't do.

MIKE—You're the professor—the children or guests will expect the same arrangement you have in the front room. And the kids will have a fine excuse to have you run up stairs to find things for them in the closet, sure they will, unless you put a light in there.

MRS. JONES—There seems to be no end to this expense. I'm afraid we can't have all of these outlets.

MIKE—You're wrong there, mam—do the job right at the start and end the expense right there.

MRS. JONES—If I can only remember all the reasons you have given me I think I can get Mr. Jones to approve. Anyway, I'll try

it. Well, put the extra outlets in the bedrooms.

MIKE—Here's the basement. Shall I add fifty feet of drop cord to this light over the laundry tub?

MRS. JONES—Certainly not—what an idea!

MIKE—Well, you have coal to shovel, water and steam gauges to watch, ironing to do. The boss will have a good excuse not to fix things around the house for you because there's no light over the work bench. Yes, you had better put the long drop cord on that light.

MRS. JONES—That won't do, not at all! You put lights where they belong—I'm going to have a proper job or none at all.

MIKE—That's right. Now you just add four dollars and a half for each outlet we have added and you will find the job won't cost too much.

MRS. JONES—Four dollars and a half! Mr. Smith only gave me credit for three dollars for the ones he cut out. Why should it cost more to add than substract?

MIKE—You got me, mam! His arithmetic works differently than most people's. I don't see how he is going to get around that, so I guess they go back in for what they came out for. You certainly have figured out a good job for your first attempt. I couldn't do better if I did it myself, with all my experience.

MRS. JONES—(*Counting up outlets and figuring cost*). Yes, I think I have decided on the proper arrangement.

MIKE—(*Starting to leave*). I'll be over here sometime tomorrow. The old man will be around with his horse and wagon with the material. You know, that horse and wagon of his is like his job selling—days of forty-nine stuff!

MRS. JONES—I find by putting back these outlets at three dollars each the cost is less than it was before Mr. Smith did all the cutting.

MIKE—Sure, he sits up nights figuring out swell schemes like that, only he always comes out the same way. He'll be around telling me to step on it while I'm working 'cause he had to take the job cheap. I will while he's looking. When you get ready for your fixtures let me wise you up. I've been reading The Electragist and some of the other trade papers and I know what's going on in that line too. Don't let old-horse-and-wagon talk you into some of his old antiques.

MRS. JONES—Doesn't Mr. Smith belong to his trade association?

MIKE—No—he can't find any horse and wagon information in the Association of Electragists—that's a regular organization. Good day, Lady! (*Exit Mike*).

(*Curtain*)

The General Contractor Takes a Trip to Europe *

THE Atlantis was two days out of New York and passengers had settled themselves down to what promised to be an ideal voyage. New acquaintances were being made and here and there on the spacious decks were to be seen the usual groups of newly-formed friends. In one of these small crowds the conversation had drifted to the usual subject of why each particular person was making the voyage.

"I am going to Zurich to visit a specialist in disorders of the stomach," said one, himself a personage of fame in surgical work dealing with the digestive system. Another was journeying to the battlefields of France and Belgium to visit the grave of a son who had given his life in the World War. A yearly pilgrimage was taking another to the Alps, while Paris was the destination of one old man before he would be satisfied to call himself finished.

"Human nature brings me to Europe," said one man, "and about this time of the year I usually manage to come over at the expense of the other fellow."

"Tell us about it," suggested a fellow traveler.

"It is a rather simple story," said the speaker, "yet it is one that illustrates a side of human nature. Gentlemen, I am a building contractor and in my section of the country am considered successful. Quite a few projects have been handled out of my office and by playing on certain characteristics of human nature I am able to make my yearly pilgrimage to the Old World.

"Here is my story of this trip," he continued. "This spring I was the successful bidder on a five-story office building to be built in our town. After the contracts were signed I sat back and rested, or rather waited. The very next day after the newspapers had carried the story of the new building mentioned my firm as the builders, the subbidders began coming around.

" 'Bring me your best figure on the work, or material, as the case may be,' I told them all. Of course, they all began to scramble for the business in their lines but, more than any other, I was interested in the electrical people. They are the good folks who are paying my expenses on this trip.

"Well, when the job was figured originally we included as our electrical figure an estimate furnished us by a reliable firm, and it was a figure we believed well in line. Of course, our usual percentage was added to this figure. There are in our town two firms that are in close competition, one being an old firm and the other a new one. You see, the old firm hates to see this new outfit get a start and the new people are determined to make a go of it and, knowing the situation, I just played on my knowledge of human nature.

"Both these firms had sent us in a figure previous to our closing for the job, so we felt under no obligation to either of them in particular. They both visited us on the day following the announcement in the papers of our successful bid. I told them both to bring in their best price.

In a few days their prices were in and both had cut their original figure somewhat, but I did nothing until one of them visited me in my office. I told him he would simply have to come down if he wanted the job. The next day he brought in his figure cut down two hundred dollars. I put him off until later.

"To the other fellow I intimated he would have to make a substantial cut if he wanted the work. The next day his figure was in and it was lower than the first chap's, the one who had cut the two hundred a day previous. That afternoon the first man called me on the phone from the new concern. I told him he was still high, but he was through as far as bids went.

"Gentlemen, as business men, I ask you if I did anything unethical?" demanded the tourist. "I gave neither of these men the other's figure nor was I obligated to either at any time. I merely played up a human trait, that of getting the best of the other fellow, and they fell for it. I made a cool five hundred dollars on that modest deal and my ticket to Europe this summer has cost me four hundred and sixty-five dollars. Thanks to the electrical people. It does seem that business people would know better than to go after business that way. But, as I say, I make my yearly pilgrimage to Europe at the expense of human nature."

*By one of the Electrical men who helped pay for the trip of the G. C.

The Electragist

Official Journal of the
Association of Electragists—International

S. B. WILLIAMS
Editor

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Associate Editor

A Distinction with a Difference

Here is a new conundrum: "When is All-Metal not All Metal?" And the answer, of course, is—"When it is all conduit."

In other words the "All-Metal" Standard is the product of the Twenty-Third Annual Convention of the Association of Electragists and has a perfectly definite meaning.

By "All-Metal" the Electragists meant, and still do mean, the inclosure of all interior wiring, other than low tension, in metal.

They recognized then, and continue to recognize, that there are different kinds of "All-Metal" wiring—rigid conduit, flexible armored cable, and metal molding. There were no doubts in the minds of those who unanimously voted for All-Metal in Washington in 1923 that each of these methods of enclosing circuits had a definite and logical place in safe wiring practice.

The Electragists have always and will always insist on public safety—hence "All-Metal". At the same time they recognize that there is a limit to which reason will go in accepting a safety factor.

A bridge, for instance, with a safety factor of 5 to 1 is not as safe as one with a factor of 100 to 1, but who would insist on the latter.

The *reasonable* safety, therefore, is the deciding factor and such is the case in All-Metal. In fireproof buildings the natural and reasonable installation is one in conduit and if a city insists that all construction be fireproof then all conduit is reasonable.

However, when very inexpensive frame or stucco construction is permitted outside the fireproof zone a comparable safety is requisite in the wiring. This does not mean any letting down in the standard—it merely means that certain classes of construction demand different factors of safety.

This is all by way of saying that when a city is preparing to go on an All-Metal basis, it must recognize the proper use of the different metal wiring methods.

There isn't any doubt but what all conduit is the safest form of wiring known; but if we as Electragists and contractors advocate any such high standard to the exclusion of all other less expensive but adequate forms of wiring we shall defeat our purpose. In plain words we shall be accused of trying to feather our own nests and make more money out of a job.

Today the central stations through the wiring committee of the National Electric Light Association have gone on record as opposing All-Metal. Why? Because of price.

We cannot afford to jeopardize our All-Metal position by making it all conduit. The public has a right to the economy commensurate with reasonable adequate protection.

Although we are sincere in building an All-Metal standard, we shall be misjudged by those interests which want only the cheapest kind of construction procurable, if we go too far in our desire to give the public the best.

Payroll by Check

Since the war, banditry has increased to such proportions that it is unsafe for anyone to carry anything of considerable value upon the streets. One of the favorite targets for the bandits is the paymaster. The carrying of large payrolls from the bank to the office has already cost many lives and untold thousands of dollars.

It must be stopped and apparently the only effective way is to remove the incentive. More and more large payrolls are being paid by check and electrical contractors are urged to give this plan consideration.

There may be objections from some of the less progressive union leaders but a conference with these men will undoubtedly show them the light; because they have no desire to offer any encouragement to lawlessness.

There may be contractors who are opposed to this method because it did not work out well some years ago, but that was prior to prohibition. Today the pay check instead of going across the bar will go into the bank. There will be very little delay in cashing checks.

Finally, it will cost the contractor less to pay by check than by cash. He will have none of the details of going to the bank, getting the right number of pieces of currency and bills and then filling each envelope.

Here is an opportunity for the contractors in each community to get together and do something for their own and the public good.

Radio Corporation Charges

Electrical contractors and dealers handling radio were probably somewhat surprised to learn in the newspapers a few days ago that hearings had begun by the Federal Trade Commission on charges brought against the country's most prominent radio manufacturing company and associated interests.

There is little likelihood that the commission will find anything seriously wrong about the conduct of the affairs of this company but whether it does or not we wish to go on record as saying that the radio industry and radio loving public owe to the Radio Corporation of America a debt of gratitude for the efforts it has made to place radio on a better plane.

With what amounts almost to a monopoly in bulbs, this company has not been selfish to the point of holding up prices, and when it does lower prices the dealers are not asked to hold the bag. It has maintained a high standard in its broadcasting—a service to the industry and public alike. It has made an effort, at no small expense, to protect the public against unscrupulous radio interests.

We should not like to see anything happen at Washington which would prevent the continuance of this company's beneficial influence on the progress of radio.

It's an Ill Wind

The confusion that has arisen over the way in which the question of approving the use of multiple assemblies has been handled by all concerned is a good thing. From it all will come a clearer understanding of the purpose and limitations of the Electrical Committee and of the National Electrical Code.

Undoubtedly the confusion arose because of the inability of the Electrical Committee to consider unarmored multiple assemblies abstractly. Every time assemblies were mentioned RomeX came to mind.

Now the Electrical Committee is not concerned with RomeX or any other individual product; it is interested only in types or classifications.

Another consideration arose to throw dust in the committee's eyes—economy. The Electrical Committee rightly has no interest in economy. The committee's job—its sole job—is to make rules which will provide reasonable safety in electric wiring. That's all.

Price is no criterion of safety. Price is of importance only in commercial considerations—never in real safety considerations. The Electrical Committee is not a commercial body—it can not and must not be animated by commercial impulses. If commercialism were to dominate the deliberations of that committee it would be engaged in an unlawful practice and would be liable to prosecution by the Federal Trade Commission and the Department of Justice.

Offhand we can conceive of no wiring system that is dangerous; it is the method of installing such a system that presents the hazard. For instance, bare wire is not dangerous as a conductor of electricity. Moreover, we see no reason why it cannot safely be used in wiring buildings; all that is required is to provide the necessary and adequate safeguards.

In like manner every other class of wiring system is safe if surrounded with the proper safeguards. It may be that when the Electrical Committee gets through with its work there will be no incentive for any manufacturer to produce materials complying with such provisions. That is no fault of the Electrical Committee, however. It cannot sacrifice public safety to a manufacturer's purse.

The only stumbling block that the committee should ever face is what is "reasonable safety". By virtue of its inherent characteristics electricity must be provided with a large safety factor. If only ideal conditions were met or even the ordinary small overloads there would be no reason for the present high standards. The troublesome and damaging conditions, however, are of such severe nature that our factor of safety must take them into consideration as the controlling element.

It makes no difference how many local contractors may say they think a system is safe, it makes no difference how many favorable votes may be received from contractors, it makes no difference that power central stations are in favor of any system that will lower the cost of wiring—the Electrical Committee alone is charged with the responsibility of providing for the public safety. It is a sacred and serious duty and no man who feels he is at all tied commercially or who feels that he cannot act with consideration only for the reasonable public safety, should serve on that committee. Men should not be placed on the Electrical Committee to protect any interest other than that of reasonable public safety.

The Inspector

The police are seldom popular, not because they are unfaithful but because those who have a grudge or a complaint take pains to express an opinion.

The police of the electrical installation industry are the inspectors. Without a doubt there are many inspectors who ought to be doing something else, but, by and large, all things considered, the electrical inspector is not a bad sort at all.

What impresses us most, however, is the calibre of men who head most of the important electrical inspection departments, municipal and underwriters. We were checking up the other day in a casual sort of a way and we were astonished to find so many men big of purpose, judgment, ability, and fair mindedness.

So long as the administration of electrical inspection work is in the hands of such men the electrical contracting industry can feel confident that their best interests will be protected.

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37 West Van Buren St.
Chicago, Ill.

COMMITTEE CHAIRMEN

Architects and Engineers (including Jurisdictional Awards)
E. McCleary
2470 Grand River W., Detroit, Mich.

Code
A. Penn Denton,
512 So. W. Blvd., Kansas City, Mo.

Conventions and Meetings
Joseph A. Fowler
118 Monroe Ave., Memphis, Tenn.

Cost Data
J. H. Schumacher
187 Portage Ave., Winnipeg, Man.

Credit and Accounting
J. F. Buchanan
1904 Sansom St., Philadelphia, Pa.

Electragists' Data Book
E. C. Headrick
87 Broadway, Denver, Colo.

Legislation
J. F. Buchanan
1904 Sansom St., Philadelphia, Pa.

International Relations
R. A. L. Gray
85 York St., Toronto, Can.

Liability Insurance
Joseph A. Fowler
118 Monroe Ave., Memphis, Tenn.

Membership
C. L. Chamblin
687 Mission St., San Francisco, Calif.

Publication
L. K. Comstock
21 East 40th St., New York City

Radio
E. C. Headrick
87 Broadway, Denver, Colo.

Standardization
W. A. Jackson
37 West Van Buren St., Chicago, Ill.

Trade Policy
(Covering Manufacturers, Central Stations, Jobbers and Merchandising)
W. Creighton Peet
70 E. 45th St., New York City

U. S. Chamber of Commerce
L. K. Comstock
21 E. 40th St., New York City

Past Presidents of the National Electrical Contractors' Association

Charles L. Eidlitz.....1901-1903
E. McCleary 1903-1905
James R. Strong.....1905-1908
Gerry M. Sanborn.....1908-1910
*Marshall L. Barnes.....1910-1912
Ernest Freeman 1912-1914
*Deceased
John R. Galloway.....1914-1916
Robley S. Stearnes.....1916-1918
W. Creighton Peet.. 1918-1920
James R. Strong.....1920-1925

CHAIRMEN AND SECRETARIES OF STATE ORGANIZATIONS

State	Chairman	Secretary
British Columbia:	P. F. Letts 3044 Granville St., Vancouver	J. Hart 323 B. C. Elec. Bldg., Vancouver
Alabama:	J. R. Wilcox 2017 First Ave. Birmingham	D. B. Clayton Am. Trust Bldg., Birmingham
California:	H. H. Walker Los Angeles	Northern Division Edward Martin 182 Fifth St., San Francisco Southern Division C. J. Geisbush 610 Cotton Exchange Bldg., Los Angeles
Connecticut:	N. B. Fitch New Haven	Wilbur M. Peck Box 440, Greenwich, Conn.
Florida:	Preston Ayers Orlando	Charles E. James Fort Pierce
Illinois	Joseph R. Downs 425 Schradski Bldg., Peoria	L. B. Van Nuys 238 S. Jefferson Ave., Peoria
Indiana:	George H. Smith 115 S. College Ave., Bloomington	Ralph Brassie Lafayette
Iowa:	R. Honneger 516 W. 3rd St. Des Moines	C. E. Gourley Cedar Rapids
Kansas:	R. M. Sutton 123 N. Market St., Wichita Robley S. Stearnes	Charles Dalrymple Wichita I. G. Marks
Louisiana:	624 Carondelet St., New Orleans	406 Mar. Bk. Bldg., New Orleans
Maryland:		G. S. Robertson 417 Park Bk Bdg., Baltim're
Michigan:	W. F. Fowler c-o Barker-Fowler Electric Co., Lansing	E. P. Blackman c-o Motor Shop Battle Creek
Missouri:	Charles J. Sutter Frisco Bldg., St. Louis	G. E. Haarhaus 6804 Minnesota Ave., St. Louis
Mississippi:	W. F. Johnston Meridian	A. H. Jones McComb
New Jersey:	Henry M. Desaix Paterson	Robert Beller Newark
New York:	A. Lincoln Bush New York City	H. F. Janick 235 Berlin St., Rochester
North Carolina:	N. L. Walker Raleigh	F. E. Robinson Charlotte
Ohio:	C. L. Wells Akron	O. A. Robins 1517 Franklin Ave., Columbus
Pennsylvania:	Floyd L. Smith 250 Wyoming Av., Scranton	M. G. Sellers 1202 Locust St., Philadelpha
Tennessee:	Emmett Scott 115 W. 7th Street, Chattanooga	J. A. Fowler 118 Monroe Ave., Memphis
Texas:	T. L. Farmer 1809 Main St., Dallas	J. W. Read 715 Capitol Ave., Houston
Wisconsin:	L. W. Burch 202 E. Wash'n Ave., Madison	H. M. Northrup 23 Erie St., Milwaukee

List of Local Associations

STATE AND CITY	LOCAL SECRETARY	STREET ADDRESS
ALABAMA		
Birmingham (C)	J. R.Wilcox	2017 First Avenue
CALIFORNIA		
Fresno (C)	Clyde L. Smith	1162 Broadway
Long Beach (L)	V. Ringle	So. Cal. Edison Co.
Los Angeles (C)	Helen I. Mikesell	1009½ S. Hill St.
Oakland (C)	Laurence R. Chilcote	Hobart & Webster Sts.
Sacramento	L. W. Sherman	910 Ninth Street
San Francisco (C)	E. E. Browne	522 Call Building
COLORADO		
Colorado Springs (C)	Matt Whitney	208 N. Tejon St.
Denver (C)	Thomas W. Nixon	615 Fifteenth Street
Pueblo (C)	E. F. Stone	So. Colorado Power Co.
CONNECTICUT		
Hartford (C)	A. A. Angello	473 Park Street
Waterbury (C)	D. B. Neth	107 West Main Street
DIST. OF COLUMBIA		
Washington (L)	R. W. McChesney	Munsey Building
FLORIDA		
Jacksonville (C)	W. H. Secrist	c|o Bay-Secrist Elec. Co.
Miami (C)	E. A. Robinson	118 N. W. First Ave.
GEORGIA		
Atlanta (C)	B. K. Laney	75 Marietta Street
Savannah (L)	Sylvan M. Byck	Byck Electric Co.
ILLINOIS		
Chicago Electrical Contractors' Association	J. W. Collins	160 No. LaSalle St.
Master Elec. Contractors' Association	F. J. Boyle	175 W. Washington St.
Decatur (C)	Earl Weattherford	114 East William St.
Peoria (C)	L. B. Van Nuys	238 So. Jefferson St.
Rockford (C)	Donald Johnson	106 North Second St...
Springfield (C)	A. D. Birnbaum	916 West Cook St.
INDIANA		
Gary (C)	A. B. Harris	570 W. Washington St.
Indianapolis (L)	R. E. Snyder	704 No. Alabama St.
Terre Haute (C)	C. N. Chess	523 Ohio Street
IOWA		
Davenport (C)	Louis F. Cory	510 Brady Street
Fort Dodge (C)	J. A. Paul	21 South 12th Street
Sioux City (C)	E. A. Arzt	211 Fifth Street
Waterloo (C)	R. A. Cole	Cole Bros. Elec. Co.
KANSAS		
Salina (C)	G. R. Pizarro	146 So. Santa Fe St.
Wichita (C)	P. W. Agrelius	Wichita
KENTUCKY		
Lexington (C)	J. H. Brock	235 East Main St.
Louisville (C)	C. L. W. Daubert	921 South Third St.
Paducah (L)	K. H. Knapp	c-o Paducah Electric Co.
LOUISIANA		
New Orleans (C)	I. G. Marks	406 Mar. Bk. Bldg.
Shreveport (C)	R. L. Norton	620 Marshal Street
MARYLAND		
Baltimore (C)	George S. Robertson	417 Park Bank Bldg.
MASSACHUSETTS		
Haverhill (C)	H. W. Porter	14 West Street
Malden (Medford, Everett and Melrose) (C)	H. J. Walton	c-o Malden Electric Co.
Springfield (C)	A. R. Tullock	11-12 Court House Place
Worcester (L)	John W. Coghlin	259 Main Street
MICHIGAN		
Detroit (C)	N. J. Biddle	112 Madison Ave.
Grand Rapids (C)	T. J. Haven	1118 Wealthy St., S.E.
Saginaw (C)	E. T. Eastman	209 Brewers Arcade
MINNESOTA		
Duluth (L)	Morris Braden	c-o Minn. Power & Light Co.
Minneaoplis (C)	W. I. Gray	209 Globe Building
MISSOURI		
Kansas City (C)	A. S. Morgan	4 E. Forty-third St.
St. Louis Electragists' Ass'n (C)	W. F. Gersner	120 No. Second St.
Electric Employers' Association (C)	G. L. Gamp	Wainwright Bldg.
NEBRASKA		
Lincoln (L)	George Ludden	1329 N Street
Omaha (L)	Isreal Lovett	c-o City Hall

(C) designates exclusively Contractor-Dealer organization.
(L) designates an Electrical League.

STATE AND CITY	LOCAL SECRETARY	STREET ADDRESS
NEW JERSEY		
Long Branch (C) (Asbury Park and Red Bank)	Austin Hurley	Campbell Ave., Long Branch
Newark (C)	John Caffrey, Jr.	435 Orange Street
Paterson (C)	R. Marshall	479 Market Street
Philipsburg (See Lehigh Valley, Pa.)		
NEW YORK		
Brooklyn (C)	H. F. Walcott	58 Third Avenue
amestown (C)	Henry M. Lund	309 Main Street
Nassau-Suffolk (C)	Henry T. Hobby	55 Front Street, Rockville Centre, L. I.
New York City		
Section No. 1 (C)	M. J. Levy	70 East 45th Street
Independent (C)	Albert A. A. Tuna	127 East 34th Street
Metropolitan (C)	George W. Neil	96 Beekman St.
Rochester (C)	Theo. T. Benz	278 State Street
Schenectady (C)	Richard Spengler	421 McClellan Street
Syracuse (C)	Fred P. Edinger	802 East Water St.
Utica (C)	W. C. Ballda	228 Genesee Street
Yonkers (C)	Louis Mayer	485 South Broadway
OHIO		
Akron (C)	E. C. Rishel	540 East Avenue
Canton (C)	H. A. Hastings	301 New Vickery Bldg.
Columbus (L)	Ernest A. Sims	37 East Main Street
Dayton (C)	Clarence Carey	1107 South Brown St.
Marion (C)	O. H. Cornwell	461 W. Center Street
Massilon (C)	F. D. Mossop	c-o Mesco Electric Co.
OKLAHOMA		
Pawhuska	C. G. Sego	Pawhuska
PENNSYLVANIA		
Allentown (see Lehigh Valley)		
Bethlehem (See Lehigh Valley)		
Catasaqua (See Lehigh Valley)		
Chester (C)	W. H. McMillan	12 West Third Street
Du Bois (C)	C. E. Blakeslee	12 E. Long Avenue
Easton (See Lehigh Valley)		
East Stroudsburg (See Lehigh Valley)		
Emans (See Lehigh Valley)		
Hellertown (See Lehigh Valley)		
Lehigh Valley (C)	A. W. Hill	Main and Market Sts., Bethlehem
Northampton (See Lehigh Valley)		
Palmerton (See Lehigh Valley)		
Philadelphia (C)	M. G. Sellers	1202 Locust Street
Pittsburgh (C)	Fred Rebele	1404 Commonwealth Bld.
Slatington (See Lehigh Valley)		
Wilkes-Barre (L)	Ambrose Saricks	25 No. Main Street
SOUTH CAROLINA		
Charleston (L)	J. P. Connolly	141 Meeting Street
SOUTH DAKOTA		
Sioux Falls	Harry Sedgwick, Pres.	Sioux Falls
TENNESSEE		
Chattanooga (L)	P. W. Curtis	725 Walnut Street
Knoxville (L)	Jerry G. Cason	303 West Church St.
Memphis (L)	J. J. Brennan	12-16 So. Second St.
Nashville (C)	J. T. Shannon	c-o Electric Equip. Co.
TEXAS		
Beaumont (C)	J. A. Solleder	Houston & Bolivar Sts.
Dallas (C)	P. B. Seastrunk	2032 Commerce St.
Houston (C)	J. W. Read	715 Capitol Avenue
UTAH		
Ogden	B. Kristofferson	2249 Washington Ave.
Salt Lake City (C)	C. Louis Collins	215 Kearns Bldg.
VIRGINIA		
Lynchburg (C)	J. L. Fennell	c-o Fennell & App
Norfolk (L)	K. D. Briggs	227 Arcade Bldg.
WASHINGTON		
Seattle (L)	P. L. Hoadley	Seaboard Building
WISCONSIN		
Green Bay (C)	V. E. Grebel	531 S. Broadway
Madison (C)	Otto Harloff	602 State Street
Milwaukee (C)	R. H. Grobe	1604 Wells Street
CANADA		
Montreal (C)	George C. L. Brassart	674 Girouard Ave.
Vancouver (C)	James Hart	323 B. C. Electric Bldg.
Winnipeg (C)	Sydney F. Ricketts	76 Lombard Street

OCTOBER ACTIVITIES

Iowa Electragists in Convention at Fort Dodge

THE fifth semi-annual convention of the Iowa association was held at Fort Dodge on October 19 and was well attended, all parts of the state being represented.

The meeting was called to order by E. B. Murray, chairman of the local arrangements committee, who introduced Mayor C. V. Findlay, who, in his address of welcome, showed a sympathetic understanding of trade association work. President Robert Honegger of Des Moines then took charge of the meeting and gave an interesting review of state progress in the industry during the year. He especially pointed out the great strides made by the comparatively young state organization.

A report of the international convention at West Baden was given by Arthur P. Peterson, who also outlined the present activities of the A. E. I. and their relation to local and state organizations. Mr. Peterson explained the new service which the A. E. I. has made available to organized cities, whereby such cities may have the benefits of the experiences of other cities in conducting their work through direct contact of local and state secretaries in annual conference, visits of field representatives and a confidential bulletin which is now being sent regularly to local and state officials.

Mr. H. E. Neff of Cedar Rapids, chairman of the Iowa Association Trade Policy Committee, rendered a report of the activities of his committee at the afternoon session. He stressed the point that trade discounts should be extended to only such concerns or individuals who buy for the purpose of resale, or who use such material in their regular installation work and not for those who buy for consumption only.

At this session addresses were also given by representatives of the various groups in our industry. Edward Collins of the Collins Electric Company spoke for the jobbers and voiced the desire of the jobbers of the state to make effective the A. E. I. Trade Policy. Considerable discussion took place on the subject of uniform electrical ordinances for the state and the need of supervised inspection, especially in view of the fact that incompetent inspectors now serve in many smaller cities.

The following officers were elected at the close of the convention: E A. Artz, Sioux City, president; R. A. Cole, Waterloo, vice president; C. M. Smiley, Fort Dodge, secretary-treasurer; E. N. Peak and Robert Honegger to membership of the Executive Committee.

Pennsylvania Association Convention

The Pennsylvania State Association of Electrical Contractors and Dealers held their thirteenth annual meeting at Scranton on October twenty-first. All the meetings were held at the Hotel Jermyn. Following their usual custom the opening event was a luncheon, which was attended by about 80 members and guests.

A business session was held in the afternoon and was featured by an address by Floyd L. Smith, president of the state association. Mr. Smith discussed the work that the association has carried on in the enforcement of the state law requiring the separation of electrical bids on public work. He urged an intensive membership campaign between now and January 5, 1926, when the next convention will be held in Philadelphia. Representatives of various manufacturers and jobbers were present and addressed this session of the convention. The present officers were retained by a vote of those present.

In the evening 140 members and guests attended the dinner. The feature address was made by Samuel A. Chase, who discussed the practical side of selling electrical ideas. He was given an ovation following his progressive and optimistic outline of what the association has to look forward to in the future.

Red Seal Store Plans Made in Toronto

The Electrical Service League of Toronto has made public, through an attractive and convincing folder, the Red Seal store lighting specifications which have the backing of the league. Not only does this literature deal with the technical requirements for proper lighting, but has taken up the serious problem of making the average merchant look over his own lighting plans with critical eyes. The following summary of the specifications show how thoroughly the Toronto league has covered the subject for that city.

Interior lighting intensity has been divided into three separate requirements to meet the needs of as many divisions in the merchandising field. The suggested standards are as follows: Group No. 1, 8-foot Candles for bakeries, butcher, china, grocery, music, notions, stationery stores; Group No. 2, 10-foot Candles for cigar, confectionery, decorator, dry goods, book, florist, piano, hardware, leather, furniture, clothing and general stores; Group No. 3, 12-foot Candles for carpet and rug, drug, furrier, haberdashery, hat and millinery, fruit and jewelry stores. Special lighting plans are recommended for art stores, motor showrooms and above all electrical stores.

Display window lighting is placed 100 per cent up from the interior minimum with suitable protection against glare. Outlets in windows are spaced at 12 to 15 inches apart, lights to be hidden from street.

In the interior of stores, outlets are recommended at intervals of not more than 10 feet, in one or more rows. When store is 14 feet wide, or wider, two rows or more. Distance between rows to be not less than 8 feet in stores with two rows only. Larger areas, outlets 10 feet apart or less either way, of at least 250 watt capacity. One duplex convenience outlet should be placed in each window and one outlet for each 20 feet of baseboard.

President Again to Light Community Tree

As in past years, President Coolidge will again on this Christmas Eve switch on the lights of the National Community Christmas tree which is placed on Sherman Square, adjacent to the White House, during the holiday season. This annual ceremony, it will be remembered, originated in 1923 under the auspices of the Society for Electrical Development.

Christmas 1925 will mark the first time that the ceremonies accompanying the lighting of the National Christmas Tree have been broadcast by radio. This will be done from Station WRC in Washington and it is expected that, by the use of land wires and rebroadcasting, these ceremonies will be heard throughout practically the entire length and breadth of North America. The Electric League of Washington will again this year, as on the two previous occasions, take entire charge of decorating the tree and keeping its electrical equipment in order from the time President Coolidge throws the switch until the lamps and streamers are removed after New Year's Day.

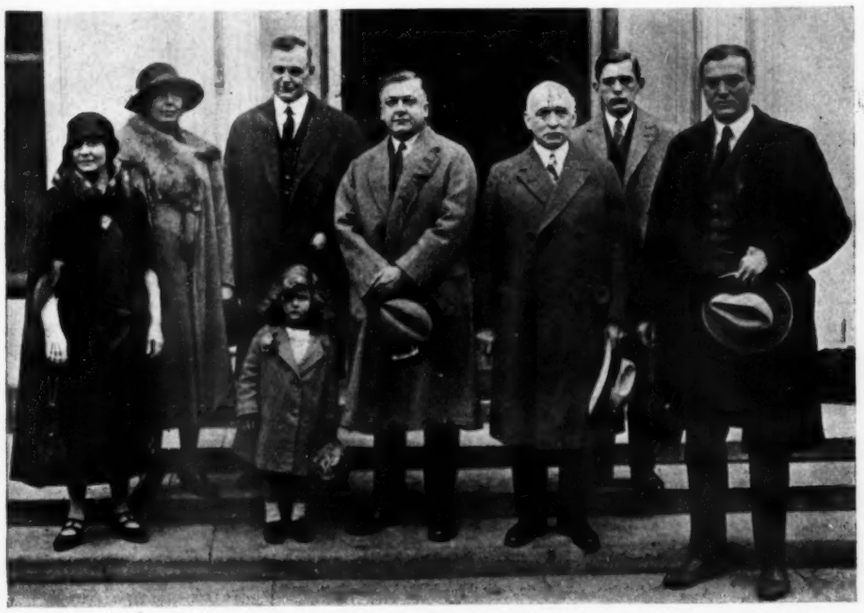
The National Community Christmas Tree was brought to Washington last December and planted upon Sherman Square under the direction of Col. C. O. Sherrill, Custodian of Public Buildings and Grounds. At that time permanent electric service was brought to the foot of the tree through a specially constructed underground conduit and the tree was also supplied with a complete set of socket streamers and an ample number of electric lamp bulbs.

The delegation which waited upon President Coolidge on October 14 to solicit his presence at the official lighting are shown below on the steps of the White House in Washington following their call on the Chief Executive.

New Panelboard Standards Now Ready

Robert B Shepard, secretary of the Electrical Safety Conference, has recently published the 1925 edition of the Safety Standard for Panelboards. This standard is intended to be used in conjunction with Parts 1 and 3 of the National Electrical Safety Code to which it is supplementary.

Copies of the Safety Standard for Panelboards may be obtained at the office of the secretary, 109 Leonard Street, New York City. Only one copy will be furnished on a single request.



Reading, left to right: Mrs. Cecil Sisson Broy, Miss Evelyn W. Smith, donor of tree, Edwin C. Graham, F. M. Feiker, vice president, The Society for Electrical Development, Herbert A. Wagner, T. H. Ormsbee, The Society for Electrical Development, and Hamilton Fish, Jr., Member of Congress

Electrical Code Released by National Underwriters

The 1925 edition of the National Electrical Code has now been released by the National Board of Fire Underwriters. The actual date when it supersedes the 1923 edition in the review of electric wiring can be determined upon inquiry of the authority by whom inspections are made in each respective locality.

The electrical committee of the National Fire Protection Association will meet in February, 1926, to consider proposed amendments to the 1925 edition of the code, in accordance with the program announced when the committee was so enlarged that it qualified as a section under the procedure of the American Engineering Standards Committee.

Manufacturers of Electrical Supplies to Meet

The semi-annual and section meetings of the Associated Manufacturers of Electrical Supplies will be held in New York City during the week starting November ninth. The date of the general meeting of the Association and the banquet, however, have been changed from Wednesday, November 11, to Tuesday, November 10, at the Hotel Roosevelt. The general meeting of the Association will be held at 2:30 P. M. on Tuesday, November 10, and will be followed by the banquet in the evening of that date.

The committee which is making arrangements for the comfort of visiting members of the association reports that a large attendance is assured from all parts of the country.

Milford Goes All-Metal

The new electrical ordinance for the town of Milford, Conn., provides for All-Metal installation in all buildings.

While not patterned exactly after the Uniform Electrical Ordinance it shows that the Milford Council studied it very closely and was guided by it in not a few instances. The new ordinance specifically states that wiring shall be in conformity with the National Electrical Code and that new and revised editions "shall automatically become a part thereof."

Fire Underwriters Expand Their Territory

The New York Board of Fire Underwriters have announced that they are ready to make inspections not only in the city of Greater New York, but in the counties of Putnam, Rockland, Westchester, Queens, Nassau and Suffolk. The board gives as a reason for this enlargement of territory the purpose to encourage a more uniform basis of requirements and charges.

Application for inspection of electrical equipments should be made to the following offices: Boroughs of Manhattan, Bronx and Richmond; Counties of Putnam, Rockland and Westchester; 123 William Street, New York. Boroughs of Brooklyn, Queens and Counties of Nassau and Suffolk; 186 Joralemon Street, Brooklyn. Routine matters pertaining to inspections in territory outside the city limits of Greater New York will be handled through the office at 95 Maiden Lane, New York.

State Electragists Meet in North Carolina

All roads led to High Point, N. C., as far as the Electragists of the state were concerned on October 5, when the State Convention was held in that city. Contrary to the practice in other years, the present Convention business was disposed of in a single day and a very busy day it was, with things under way early at the attractive Sheraton Hotel for a morning session.

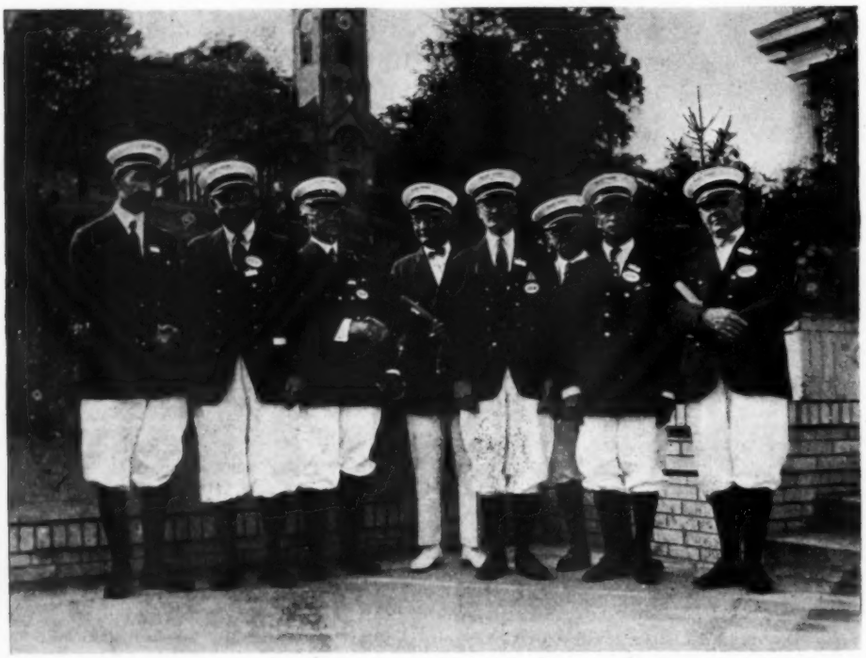
President N. L. Walker of North Carolina Electragists addressed the Convention and called for a year of cooperation in the industry throughout the state. The speaker expressed the hope that instances of jobbers and manufacturers selling direct to the consumers would soon end. He also urged support of the Red Seal Plan and encouragement of the uniform ordinance idea.

The standpoint of the jobber in the state was reviewed by William Farr, who advised for a separation of the contracting and merchandising departments, as well as the handling of radio sets, but avoidance of the sale of parts. This speaker was followed by N. E. Cannady, State Electrical Inspector, who strongly recommended uniform electrical ordinances for the state of North Carolina. An executive session was followed by luncheon at the hotel.

During the afternoon meeting addresses were made by F. E. Robinson, secretary of the state association of Electragists; V. P. Loftis, O. W. Holmes, Henry Hackney and William Hunter of Fayetteville. An automobile trip around the city followed and the Convention was brought to a close with a banquet at the High Point Country Club.

Glad Handers at West Baden

ONE of the most agreeable recollections of the convention at West Baden was the Glad Hand Committee. They are shown here in executive session before starting their duties as official welcomers of the Electragists who attended the Twenty-fifth Annual Convention out in Indiana.



Reading, left to right: Nat Walker, Jesse James, Walter Collins, Tom Hatfield, Jack Caddigan, Tom Bibber, and Hugo Tollner

N. Y. Contractor-Dealers' October Meeting

The Independent-Associated Electrical Contractor-Dealers met in the Grand Central Building on October 14 for their regular monthly meeting. Two reports were submitted to the members on the West Baden meeting this year. L. C. MacNutt, President of the Contractor-Dealers, declared the convention an inspiration and an electrical education. Secretary Albert A. A. Tuna, however, reported the less serious side of the trip and his humorous analysis of the virtues and handicaps of a week spent in West Baden was uproariously received.

The meeting closed with a lecture on Electrical Salesmanship by O. G. Van Campen and a review of Christmas window display material by L. L. Strauss. During the pre-election nomination of officers for 1926 L. C. MacNutt indicated his retirement as president of the organization after this term. This announcement was received with regret by the members.

Collens Heads Electrical Manufacturers' Council

Mr. Clarence L. Collens, President of the Reliance Electric and Engineering Company of Cleveland, has been re-elected Chairman of the Electrical Manufacturers' Council for the year 1925-1926. Mr. D. R. Bullen of the General Electric Company, Schenectady, N. Y., has been re-elected Vice-Chairman and Mr. J. W. Perry of Johns-Manville, Inc., New York, has been re-elected Treasurer.

New Electragists

The following list of contractor-dealers have made application for membership and been accepted into the A. E. I. since the publication of the last list in the October issue:

CALIFORNIA

Bakersfield:
Acme Elecric Co.
Drury Electric Co.
Kern Valley Electric Co., Inc.
Max Klunder
L. C. Stoll Electric Shop

Montague:
Radio and Electric Shop

COLORADO

Fort Morgan:
Williams Battery and Electric Co.

FLORIDA

Kissimmee:
Lewis Electric Shop

ILLINOIS

Chicago:
American School
Alloway & Hinman Electric Co.
Casey Electric Co.
Local Electric Co.
Conn Electric Construction Co.
James A. MacLagan Elec. Contr.
Vittory Electric Co.

Chicago Heights:
Blackhall Electric

Granite City:
Peerless Electric Co.

Maywood:
John Kuhlemeyer

Cicero:
Clyde Electric Co.

INDIANA

Anderson:
Dixon Electric

Akron:
The Electric Shop

Bedford:
Quinn Plumbing Co.

Elwood:
N. & R. Electric Co.

Marion:
George H. Gant Electric Co.

Muncie:
Peter Austin
C. M. Kinbrough Co.

Peru:
Peru Electric Shop, Inc.

Plymouth:
Emenaker Electric Co.
Marshall Electric Co.

Logansport:
E. H. Lux

Marion:
Brandon Electric Co.

Milford:
Milford Electric Co.

Mishawaka:
H. & M. Electric Shop

South Bend:
Central Electric Co.

KENTUCKY

Louisville:
H. C. Tafel Company

FLORIDA

Daytona:
Rex Electric Co.

Punta Gorda:
Masters Electric Co.

MICHIGAN

Sault St. Marie:
Northern Electric Co.
Vaher & Somes Electric Co.

Ann Arbor:
Ernst Bros. Electric Shop
C. H. Kittredge

Jackson:
Crandall Electric & Supply Co.

Kalamazoo:
Columbian Electric Co.
Richard Cramer
Lewis J. Field
Hinckley & White Electric Co.
Hummel's Electric Shop
Carl E. Walters

MISSOURI

St. Louis:
Brandt Electric Co.

NEW HAMPSHIRE

Keene:
L. M. Willard

NEW YORK

New York:
Belmont Electric Co.
Walter H. Taverner Corp.

Rochester:
Charles H. Bauerschmidt
Robert E. Lorey
Martin-Heech, Inc.
ReQua Electrical Supply Co.
Rose Electric Shop

Spencerport:
E. W. Barrett

Buffalo:
Wipperman & Mitchell, Inc.

Rochester:
David T. Moran

PENNSYLVANIA

E. Stroudsburg:
Witcraft Electric Co.

WASHINGTON

Wenatchee:
Elec. Supply Co., Inc.

WISCONSIN

Kenosha:
Grey Electric Co.

Racine:
August Larsen
F. H. Patrick
Martin H. Schultz
West Side Elec. Co.

CANADA

Toronto, Ont.:
Art Electric Company

St. Louis Well Represented

ONE of the largest aggregations at the recent West Baden convention was the St. Louis delegation. Aside from the fine spirit of the Missouri city contractors, as shown by their large attendance, they were prominent for their enthusiasm during the meetings. The photographer caught this group between sessions while they were holding a little family confab.

Seated, left to right: A. H. Loepker, B. H. Volm, George Corrao, Roy W. Haege, George Kluthto, John L. Buchanan. Standing: Fred Hummels, George L. Delaney, Edward Hein, E. A. Koeneman, J. R. Kelahan, John Powell, Robert Drow, A. S. Joseffy, H. R. Victor, S. C. Lance, Martin J. Wolf, E. O. Dorsch

News Notes Concerning Contractor-Dealers

The Universal Electric Co has been started by Abraham and Philip Newman, electrical contractors, at 601 Temple St., Los Angeles.

The Brown-Johnson Co., electrical contractors, suffered total loss through fire on October 1. The company will rebuild immediately, all losses having been covered by insurance.

The Medo Electric Corp. has opened a third store in Buffalo at 143 Grant St. that city.

The Allendale Electric Co. has moved to larger quarters at 3035 Thirty-eighth Ave., Oakland, Cal.

Cristol Brothers have opened a branch store of their electrical supply business in the Arcade Bldg., Bethlehem, Pa.

At Taylorville, Ill., O. L. Gordon and M. B. Ingold have opened an electrical shop. Both of the new partners are well known locally in the industry.

The Allen Electric Co. have opened a store at Flint, Mich.

J. F. Dalton has taken space in the Newberry Bldg. and will shortly move his electrical business to that address in Millville, N. J.

Ernest Cory, partner in the firm of Puttorff & Cory, in the Edkins Block, Greensborg, Ind., has purchased the interest of his partner and will conduct the business in the future under the name of The Electrical Appliance Shop.

C. Dean Wolcott has opened an electrical shop at 383 Orange Street, Sunbury, Penn, where he plans to carry a general line of fixtures, etc., as well as handle wiring and repair work.

H. M. Grahem of Herkimer, N. Y., has rented a store in the Liberty Theatre Building and plans to carry on an electrical appliance business under the name of the Domestic Appliance Company.

R. J. Hennessy of South Norwalk, Conn., announces the opening of an electrical store at 28 West Washington Street, where he plans to do a general contracting business and carry a large line of appliances.

The Mayhew Electric Company of Spring Street, No. Adams, Mass., has leased the store on upper Spring Street that was formerly occupied by Ferguson's Electric Shop, and plans to move in shortly.

Walter E. Billings of Manchester, N. H., has purchased an interest in the D. G. Fox Electric Shop of 52 Washington Street, Haverhill, Mass., and plans to take over management of the business. He was formerly with the Eastern Electrical Engineering Company.

Meta Whippesahl has been made manager of the new electrical store known as Saltsman's at 15 Landis Avenue, Sea Island City, N. J.

A new shop to be known as Smith's Electric Shop has been opened on South Washington Street, Rochelle, Ill. Miss Elsie Mordell is manager and plans to carry a complete line of fixtures.

The Tice Electrical Shop of Monterey, California, is opening a new branch shop on Dolores Street.

The salesrooms and office of the Tremaine Electric Company of School Street and City Hall Square, Brockton, Mass., will move to larger quarters at 58 Main Street, by the middle of Aug.

In Watertown, Wis., Miss Edna Hollenbeck has opened a show room for electric fixtures.

Maurice E. Rudd will shortly open an electric fixture business in the Cone Bldg., Bennington, Vt.

Frank W. Tillery has opened the Tillery Electric Shop in Slater, Mo.

The Anderson Electric Co, has removed the offices and wareroom to 130 Scott Place, Pittsburgh, Pa.

E. C. Greenway has bought the interest of his former partner, F. G. Cheney, in the Electrical Service Shop, Williamstown, Mich.

William E. Mathies has bought the electrical store which has been maintained for a number of years by W. J. Mullan in Ambridge, Pa. The business will be continued by the new owner.

A new electrical shop has been started in Panama City, Fla., by J. B. Atkinson and Vance Polson of that city.

The J. R. Allen Electric Co., Los Angeles, Cal., has been bought by H. Hamilton, former manager of one of the branches of the Whiting-Mead Co. in that city. The new owner plans to enlarge his establishment immediately.

The long established firm of Winder & Jones in Covina, Cal., will be taken over at once by S. F. Jones, one of the partners.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, of "THE ELECTRAGIST," published monthly at Utica, N. Y., for October 1, 1925:

State of New York, }
County of New York, } ss.:

Before me, a Notary Public in and for the State and County aforesaid, personally appeared S. B. Williams, who having been duly sworn according to law, deposes and says that he is the Editor of "THE ELECTRAGIST," and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and addresses of the publisher, editor, managing editor, and business manager are:

Publisher, Association of Electragists—International, 15 W. 37th Street, New York, N. Y.
Editor, S. B. Williams, 15 W. 37th Street, New York, N. Y.
Managing Editor, none.
Business Manager, Laurence W. Davis, 15 W. 37th Street, New York, N. Y.

2. That the owner is:

Association of Electragists—International. Not incorporated. Composed of 2,000 members, of which principal officers are:

Joseph A. Fowler, President, 118 Monroe Ave., Memphis, Tenn.
Laurence W. Davis, Secretary-Treasurer, 15 W. 37th Street, New York, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent. or more of total amount of bonds, mortgages, or other securities are none.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the Company, but also, in cases where the stockholder or security holder appears upon the books of the Company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the sad stock, bonds, or other securities than as so stated by him.

(Signature of) S. B. WILLIAMS,
Editor.

Sworn to and subscribed before me this 19th day of September, 1925.

MAY E. CASLIN.
(My commission expires March 30, 1926).

Southern California Members Resume Meetings

The Southern Division of California Electragists opened their quarterly meeting on October 16 at Lebec, Calif. During the two days of the convention at Lebec Inn a large attendance at the sessions indicated the interest which is growing in this division of the association.

The opening meeting was devoted to a general discussion of the members' problems and led to an interchange of views on the subject of estimating. The merchandising committee report at the morning session on the second day was received with interest as was the discussion of the financial and business problems of the contractor-dealer which followed.

During the two days of the convention a busy entertainment committee quite distinguished itself with the plans it had made for the members of the association and their ladies.

Building Contract Record Broken in August

Another tradition of the construction industry was broken in August when the highest total of building contracts ever let in a single month was reported. Ordinarily August is a quiet month so far as letting new contracts is concerned. The present year has furnished two months during which all previous construction records were shattered.

The first of these was March when the total volume of construction work contracted in the 36 Eastern States, which include about seven-eighths of the total of the country, amounted to $546,970,700, according to F. W. Dodge Corporation. Last month the total volume in these same states amounted to $589,690,200, which was an increase over July of 11 per cent, and over August, 1924, of 66 per cent.

Building Contractors to Meet at Chicago

A national conference of building contractors will be held in Chicago on Tuesday, November 17, 1925. The meeting is being called by the National Association of Building Trades Employers for the purpose of conducting a survey of probable conditions in the industry for 1926.

The fourth annual meeting of the American Construction Council will be a four day session and will be held on November 18th to 21st, 1925, at the Congress Hotel, Chicago, Illinois.

Construction and Labor Leaders Confer at Washington

A conference, called by the National Board for Jurisdictional Awards in the Construction Industry, was held in the American Federation of Labor Building, Washington, D. C., on Tuesday, September twenty-second. Approximately one hundred and twenty-five contractors, labor leaders, architects, and engineers attended the meeting, representing all the various international labor organizations, the Associated General Contractors of America, the National Association of Building Trades Employers, the American Institute of Architects and the Federated Engineering Council.

The federal government was represented in the person of Secretary of Labor Davis, who stated that the National Board for Jurisdictional Awards was a necessary agency in the settlement of jurisdictional disputes in the construction industry. He further pointed out that the board must be supported as vital to the best interests of the entire industry.

No definite action was taken by the conference, but it was the consensus of opinion that the meeting would result in a crystallization of sentiment in favor of the agency that has done so much to settle disputes between the trades in the construction industry.

Red Seal House to be Shown at San Pedro

At a recent meeting of Los Angeles Electragists plans were made under the leadership of Frank McGinley of Wilmington, Calif., to assist the Builders' Exchange of San Pedro to establish a model home for publicity purposes. The home is to be wired with all the requirements of the Red Seal specifications.

Contractor Dealers in Fire Prevention Drive

A sure note of progress comes from Mansfield, Ohio, where nine electrical contractor-dealers of the city have instituted a program for fire prevention. The companies which have not only outlined the plan but are financing it as well are as follows: Lane's Good Housekeeping Shop, Hartman-Spreng, Raby Electrical Company, Forkerson Supply Company, Mansfield Electrical Company, National Electrical Company, P. & A. Electric Company, Richland Electric Company and the Service Electric & Construction Company.

Tepel Now Dingle-Clark Chief Engineer

H. A. Tepel has been appointed chief engineer of the Dingle-Clark Company of Cleveland, Ohio, where he has been assistant chief engineer for the past five years. This change followed the recent resignation of J. A. Kelly, who has joined the staff of J. Livingston & Co., Cleveland, Ohio.

International Radio Week

International Radio Week has been announced for January 25 to 31, 1926. This is the fourth year that the National Radio Trade Association has combined the efforts of its 30 branch associations for this celebration and elaborate plans are being made for the international broadcasting tests which will be the big feature of the week. Great public interest is expected in this event, as fifteen countries are already scheduled to participate.

Every effort is being made to give the dealers full benefit of the valuable publicity that will go with International Radio Week. Window display contests have been arranged and dealers in all sections of the country may obtain display material through L. A. Nixon, secretary, The International Radio Trade Association, 1133 Broadway, New York.

California Inspectors for Red Seal Plan

The California Association of Electrical Inspectors during their semi-annual convention at Fresno, September 24 to 26, showed keen interest in the Red Seal Plan as outlined by Victor W. Hartley. The uniform ordinance subject was referred to the standardization committee.

•MANUFACTURING•

A Department Devoted to the Latest Devices Used by the Electrical Contractor and Dealer

Hubbell Receptacle

Harvey Hubbell, Inc., Bridgeport, Conn., announce the new 30 Ampere Polarized Flush Receptacle here illustrated. The body of this receptacle is of rugged construction and is made throughout of a black porcelain, the face of which is finished with a black glaze. Supporting lugs are of heavy metal, and have mounting holes suitably spaced to fit a standard two-gang outlet box 2 inches deep or over. Terminals springs are of phosphor bronze, and entrance slots, to receive cap blades, are arranged to prevent the reversing of polarity.

Cap is made of black porcelain with black glazed surface. Cord hole of suitable size to take cords up to 23/32 of an inch in diameter. Binding screws are large and protected by insulating disc which fits down over the blades, completely closing in the wiring terminals.

The Arrow Socket

The Arrow Electric Co., Hartford, Conn., have announced a new socket of the tumbler type, made in both elec-

trolier and candle styles. They have been designed for ease of operation and are furnished in both white and cream.

New Bryant Product

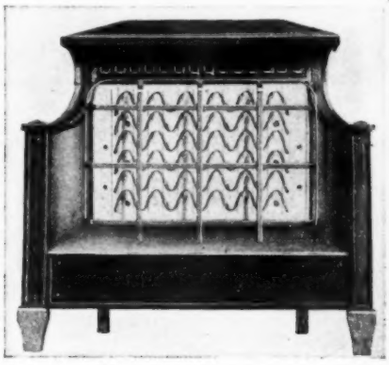
The Bryant Electric Co., Bridgeport, Conn., has placed on the market a new combination convenience outlet and tumbler switch. This one gang flush device is wired, with two terminals at

each end of the procelain cup, so that if the line conductors are connected to the terminals at the switch end, the switch will control the flow of current to the receptacle and also to any other devices which are placed in the circuit connected to the terminals at the receptacle end.

If, on the other hand, the line wires are connected to the terminals on the receptacle end, the terminals will be alive and the switch can be used to control the outlets on the circuit connected to the terminals at the switch end of the cup.

Electric Room Heater

A new development in the application of electric heat is exemplified in the new Solar Glow room heaters manufactured by the Westinghouse Electric and Manufacturing Company. This heater provides a hygienic heat, free from obnoxious gases, and combines the convection and radiation types. The floor type Solar Glow has a cast iron frame finished in statuary bronze, with the sides and back similarly finished. A buffed copper reflector aids in distributing the heat. The heating element consists of wire coils, staggered in a strong one piece porcelain unit, protected by a removable guard. A three heat indicating control switch permits the control of heat to any degree desired. The heater is designed to be connected to a standard conduit wiring system, and is provided with a six foot



cord. A wall or bath room type heater follows the same general construction as the floor type so far as the radiant and convection principle of heating is concerned.

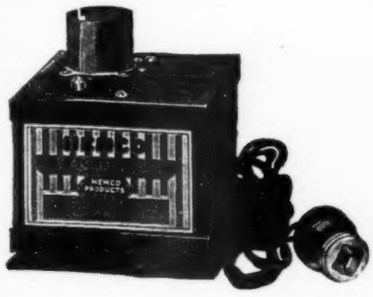
A Beaver Plug

The Beaver Machine & Tool Co., Inc., of Newark, N. J., have brought out a new Armored Attachment Plug of

heavier type than a former product. The brass blades, moreover, have been constructed along different lines to facilitate wiring.

Hemco Tube Rejuvenator

The Hemco Radio Tube Vitalizer has been placed on the market recently by George Richards & Co., of Chicago. This new tube Vitalizer is based on the discovery that with electrical treatment a fresh supply of thorium can be brought from the inside of the filament to the surface, much the same as squeezing a sponge brings the water from its interior to the surface.

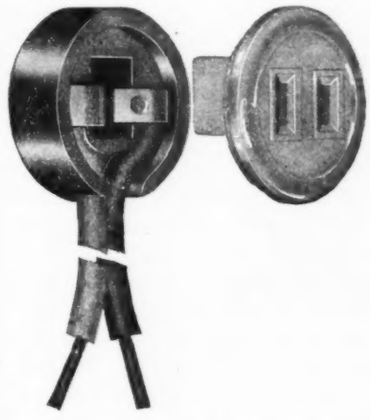


This device brings a tube to maximum operating efficiency by application of the rethoriating principle.

The Hemco Tube Vitalizer is built to operate on either A. C. or D. C. 110 volt circuit, and can be attached directly to the electric light circuit.

Beaver Wall Outlet

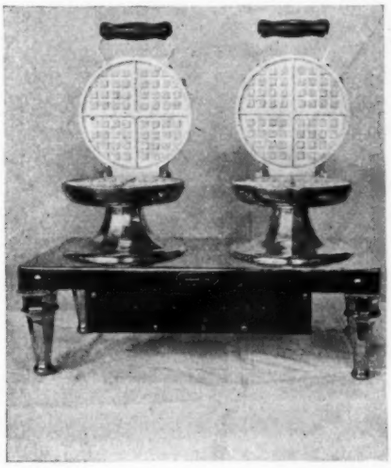
A new outlet for installation in wall brackets has been announced by the Beaver Machine & Tool Co., Inc., of Newark, N J. As illustrated, the device consis's of a face member which the fitter removes. After a hole has



been cut in the wall plate the two halves are screwed together, the face member on the outside and the rest of the device on the back side of the wall plate. This device is made in black composition or porcelain of various colors.

Automatic Waffle Iron

A restaurant-type electric waffle iron which features an automatic control of the heating elements is being manufactured by the Westinghouse Electric and Manufacturing Co. A new disk type thermostat in the upper and lower plates maintains the proper baking temperature, automatically shutting off the current when the iron becomes too hot and turning it on when the iron cools below a certain temperature.



The iron is made up in 1, 2 and 3 unit sizes, all of which have the automatic control of the temperature. The paneled sides are of polished aluminum and rest on a nickeled base. The heating plates are of heavy cast aluminum. The heaters are in close contact with both plates, insuring an even temperature and rapid heating up.

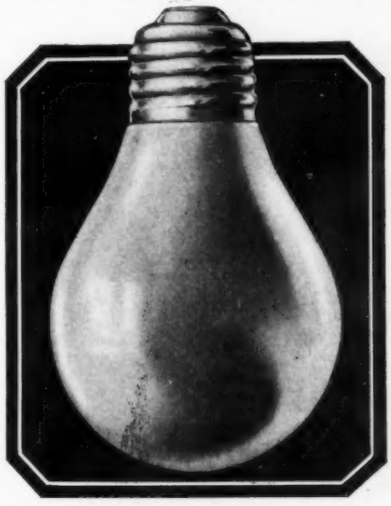
Reynolds Attachment Plug

The Reynolds Spring Co., Jackson, Mich., has announced a seperable at-

tachment plug. This product features a heavy spring bronze contacts, new locking action and is so constructed that exposed parts are nickel plated. 250 Volts, 3 Amps, 660 Watts.

Westinghouse Frosted Bulbs

The bulb frosted on the inside in such a manner as to provide diffusion by refraction of the direct rays is a feature of a new lamp recently introduced by the Westinghouse Lamp Company. According to the present plan, the new line will consist of five sizes of lamps and will replace a number of the forty-five lamp types of 100 watts and



under now in common use. The bulb is frosted on the inside in such a manner as to provide diffusion by refraction of the direct rays. This finish is said to eliminate the glare resulting from clear glass lamps and furnish a soft well-diffused light when used in the field of direct vision. In appearance the bulb is a neutral gray with a highly polished exterior. The smooth finish does not collect dust and dirt so readily as an outside coated lamp.

Eveready "B" Battery

The National Carbon Company announces a new Eveready "B" battery to be known as No. 779. This is designed particularly to fit the battery compartments of certain types of Operadio and DeForest receivers. The voltage is 22½ and dimensions 4¼ x 3⅛ x 7⅞. The new battery permits the use of the largest size cells possible in the battery compartments of the sets referred to. The retail price of the No. 779 is $2.00.

Appleton Wall Hanger

The Appleton Electric Company have had printed a wall hanger on Unilets steel conduit fittings. This is 21½x32¾ ins. size and is printed in colors. It will be sent to electrical contractors and dealers on request.

Beardslee Lamp

This new entrance hall lantern, constructed along Spanish lines, has been brought out by the Beardslee Chandelier Manufacturing Company of Chicago. The lantern has an overall length of 36 inches and all metal parts are of solid

brass, iron finish relieved by touches of gold and color. The cylindrical glass globe frosted inside is 7 inches wide by 9 inches deep and is decorated in transparent colors with two Spanish caravals sailing a wind-swept sea.

Trico Fuse Puller

The Trico Fuse Mfg. Co., Milwaukee, Wis., announce the addition of the Giant Fuse Puller to its present model, the pocket-size tool. The new product is 12 inches long and is made with seven laminations of gray horn fibre, securely

rivited at points subject to strain. Inserts are placed between the laminations to give a firm, even grip on the fuse and prevent any tendency to twist or slip in the hands of the user. The Giant Size Fuse Puller is designed for use on fuses from 100-600 Amps 250 V. and 60-400 Amps. 600 V.

Announce Service Plan For Small Motors

A new plan for servicing all fractional horsepower motors, whether sold alone or as a part of an appliance, has been announced by the Westinghouse Electric & Manufacturing Company.

Under this service plan, in case a motor becomes inoperative, the dealer from whom the appliance was purchased is first notified. It is pointed out that dealers who sell these appliances are generally equipped to take care of service and repairs to Westinghouse small motors. In case the dealer cannot make the necessary repairs the motor will be shipped direct to the nearest Westinghouse service shop. All Westinghouse service shops will have a supply of standard renewal parts, so that in practically all cases repairs can be made without delay. There will be 27 of these shops, located in the principal cities of the country.

Experience of many years is the basis of the new service plan. A nominal charge will be made for all motor repairing, in addition to the cost of new parts. This will not include, of course, motors returned within the guarantee period, unless evidence indicates they have been carelessly handled or overloaded.

Holophane's New Officers

The Holophane Glass Company, Inc., of New York, and the Holophane Company, Ltd., of Canada, have been acquired by a group made up largely of executives and employees who have been associated with the Holophane Company for periods varying from ten to thirty years. The officers of the company now are: Otis A. Mygatt, president; Charles Franck, vice-president and general manager, and Joel B. Liberman, vice-president and treasurer.

The Union Metal Manufacturing Co., Canton, Ohio, has opened a Chicago District Office in the Illinois Merchants' Bank Building in that city. The new branch will be maintained under the supervision of E. M. Peake, District Manager, and F. T. Turner, Manager, Street Lighting Department.

During a recent trip to the Pacific coast A. S. Merrill, General Sales Manager of the Appleton Electric Company, opened a branch of the company at 71 Columbia St., Seattle, Washington. This new office will be under the direction of C. H Shoemaker.

The Mohawk Electric Corp of Chicago, Ill., has announced a change of corporate name to the Mohawk Corporation of Illinois. The name change is to be effective at once.

The Conlon Corporation of Chicago, Ill., announces it has secured the services of H. D. Broughton to act as sales manager with headquarters in the general offices at Fifty-second Avenue and Nineteenth Street. Chicago.

The Chicago Fuse Mfg. Co., announce the removal of their Philadelphia office from the Weightman Building to 517 Packard Building

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The Pittsburgh Reflector Company have published an elaborate pamphlet, Show Window Lighting, which is now ready for distribution. This is Booklet No. 31F14 in the literature issued by that company.

The Gilford Electric Co. has opened a branch store to be known as The Electrical Bargain House at Tampa, Fla.

A pamphlet has been issued by the Chicago Fuse Mfg. Co., Chicago, describing and listing the ferrule contact and knife blade contact "Union" Renewable Fuses. The fuses listed include sizes from 1 to 60 amperes for the ferrule contact type and 65 to 600 amperes for the knife blade contact type, 250 or 600 volts.

A new catalogue, No. 26, is now being distributed by The O. C. White Co., of Worcester, Mass., manufacturers of adjustable electric light fixtures. The company is sending this booklet upon request to all dealers who are interested in the changes and additions to their products during the past year.

The Anderson Electric Company moved their office and warehouse to 130 Scott Place in Pittsburgh recently and now occupy the entire building at that address.